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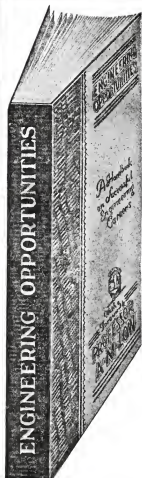
AUGUST



**LATENT IMAGE**

BY WESLEY LONG

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# ASTOUNDING

SCIENCE-FICTION

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AUGUST 1944

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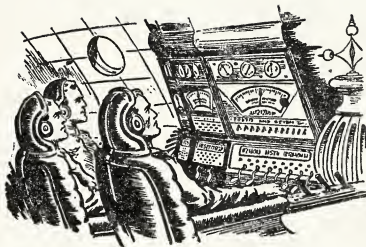
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All stories in this magazine are fiction. No actual persons are designated either  
by name or character. Any similarity is coincidental.



# “LATENT IMAGE”

By WESLEY LONG

*McBride wanted to get home in a hurry. There was a spaceship available, but an experimental model that wouldn't work, it didn't have a pilot, and the only pilot around didn't have a license!*

JOHN MCBRIDE stood on the roof garden of Satan's Hotel, looking across the River Styx at Sharon. To his left the River Styx emptied into the Sulphur Sea, and in the evening sky to his right, the dancing flames lighted the cloud banks over Mephisto, where the uranium smelters worked on a nonstop plan.

John McBride was in Hell.

But Hell is a city on Pluto, where the planners had a free hand because on intelligent life had ever scarred the planet until man came with his machinery and his luxury and his seeking for metal. Uranium had been found in plenty on Pluto, and so man had created a livable planet from the coldest, most forbidding planet in the System.

John McBride was in Hell, on Pluto, but his mind was dwelling in a little cube that rotated about a mythical spot halfway between Sol and Pluto; one of the many stations that created the space warp that focused Sol on Pluto with an angle of incidence equal to the incidence of Sol on Terra. Enid McBride was back there in that minute station, and John McBride wanted to be with her.

But Dr. Caldwell, the resident doctor of the Plutonian Lens, said: "John, if you've got to go to Pluto, that's O.K. But you can't take Enid with you. That's strictly out, with a capital 'O,' get me?"

"I suppose—"

"I've been doctoring for many years, John. It's safe for you to run off for a week or so, but don't move Enid. Your kid won't be born for a month yet, but if you subject her to the 4- or 5-G you need to get from here to Pluto, you'll have—not only the baby, but as nasty a mess as you've ever seen! Take it from me, fella, 4-G is worse than a fall if you keep it up for hours. No dice!"

"O.K.," said John, unhappily. "She'll be all right?"

"Sure," said Caldwell. "Besides, all you can do now is to sit around, bite your fingernails, and ask foolish questions. If I had my way, you'd be away when the youngster is born, that'd save you from a lot of useless worry."

"That isn't fair."

"I know you feel that way. Enid does too. But it is still sort of futile. You want the right to worry; go ahead and worry. After

all, there are enough people around the Lens that know you are worrying. She'll be all right, I tell you!"

"You'll let me know if anything turns up?"

"That's a promise, John."

So John McBride was standing on a roof garden in Hell, thinking how appropriate it was. He was in Hell, all right. Hell was a nice place to be, warm, pleasant, and happily balanced. But it was no place to be when your wife is nineteen hundred million miles away. Ah, well, another week of this and he would be racing homeward.

Home! That was funny, to consider home, a place in space where gravity was furnished by an mechanogravitic warp, and where there were no windows to open, and where you lived in a cube of steel three thousand feet on a side, mostly filled with the items required for living plus the maze of equipment required to maintain the great lens that gave Pluto its sun.

Home! It was a far cry from his boyhood home on Venus, where the greenery of the forest fought with the very walls. But home is where you like it, and McBride liked it.

He wished that he were there, for he felt that Enid needed him.

Then with that perversity of nature that people call fate, a bellhop approached him and handed him a spacegram. McBride tipped the boy and opened the envelope easily. He'd been getting 'grams by round numbers for several years, and this was no novelty. He was not aware of its importance until he opened the folded page and read:

JOHN MC BRIDE  
SATAN'S HOTEL  
HELL, PLUTO

HIT SKY FOR HOME. ENID IN NO GREAT DANGER FROM FALL. BUT HER RECOVERY WILL BE ASSISTED BY YOUR PRESENCE.

CALDWELL.

McBride read the words twice, and then looked around himself, wildly. *Hit Sky* was easy to say—but at 6-G it would take just over one hundred hours to make the passage. Four days minimum!

McBride raced to the elevator, chewed his fingernails while the car rode him down the hundred and seven floors with that snail's pace caused by many stops. He shot out of the elevator door, caromed off the opposite wall into an ash tray which he upset and sent a small cascade of sand

across the floor. McBride coasted to a stop before the hotel manager's desk and tossed the 'gram in front of him. The manager read and looked up in sympathy.

McBride said: "Get me a reservation on the next sunward-bound ship. Emergency stop; they'll make the stopoff with an emergency."

"Right." The manager spoke into the phone and then said: "And you'll be checking out?"

"Yes. Have one of the boys collect my stuff and ship it out to Station 1."

"O.K., McBride, we'll see that your stuff is taken care of. Ben!" he called out through the door, "hurry up on that reservation, and see that a car is ready to take Mr. McBride to Hellsport."

"It won't be necessary," said Ben with a glum face. "The *Uranium Lady* just took off fifteen minutes ago, and there isn't another ship scheduled out of Hellsport for five days."

"Five days!" groaned McBride. "Anything flyable on this planet?"

"Nothing that would take a run to the Lens," said Ben.

"Sure?"

"Almost positive. However, I'll put a request on the radio that may smoke out an unknown."

"I'll buy the thing if they won't let me go any other way," said McBride.

"We understand," said the hotel manager.

McBride stamped up and down the hotel lobby for an hour. His luggage came down, all collected and prepared. He called Caldwell, and spoke to him for an hour, but Dr. Caldwell's protestations didn't help McBride. Enid had fallen from a chair while cleaning out a shelf, and was resting easily, no complications. Yes, there was some pain, enough to make Enid want her husband near. No danger, no, but it would be best if he were there.

But McBride was still one hundred hours and nineteen hundred millions miles away.

John McBride didn't see the messenger boy bringing the message until he almost bumped into him. "Mr. McBride, here's your answer," said the lad, and he saw McBride rip the envelope open with a quick gesture to read the following:

MC BRIDE:  
EXPERIMENTAL SPACESHIP *HAYWIRE QUEEN* AT YOUR COMMAND IF YOU CAN REPAIR ALPHATRON. MEET ME AT HELLSPORT.

STEVE HAMMOND (SKYWAYS)

McBride said to the messenger: "It's grabbing at straws, but get me a cab and I'll take a whirl at it."

"Think you can do it?" asked the lad.

"Don't know. I'm desperate. After all, it's a wild chance because if Steve Hammond and his gang haven't been able to repair it, how can I expect to?"

"Give it a whirl anyway, sir," said the lad.

"That I'll do," said McBride. "And now that cab!"

The *Haywire Queen* stood above McBride as he met Steve Hammond. "What's your trouble, John?" asked Hammond.

McBride explained. Then he asked: "What's yours?"

Hammond smiled wryly. "That's a long, sad tale. We've been trying to increase the efficiency of the drive, you know. We've been hunting up and down the electro-gravitic spectrum for a more efficient operating point. We found what we knew already; that we were using the most efficient part of the E-grav range. We went all the way from down low, where the stuff is just beginning to make itself detectable to up high where the equipment is slightly fragile and extremely experimental in construction. Then we took a run at the mec-grav, with absolutely no success other than to ruin a whole bank of relays; the mechanogravitic warp extended farther than we anticipated when we hit the mechanogravitic resonance of the drive bar, and hell sort of flew all over in great hunks. One of the interesting items was the closing of the E-grav field controls, and the resulting power drain overloaded the alphasatron. We limped in using a jury-rigged line from the lifeship's alphasatron and made a something-slightly-less than a crash landing here on Pluto.

"So now we're either stuck here until we get the new alphasatron we ordered, or you can give us a few hints on household repairs."

"What's your lifeship's output?" asked McBride, following Hammond into the spacelock.

"About eleven hundred alphons."

"You'll need about fourteen hundred to take off from Pluto," said John. "How's the big one?"

"Deader than the proverbial dodo, whatever that was."

"Dodo?" laughed McBride. "That was a mythical critter that went around dead, I think. It was so dead, even when alive, that when it really died, it was really dead."

"You'd better stick to alphasatrons," laughed Hammond.

"Speaking of the equipment, have you tried to get a replacement on Pluto?"

"Nothing didding. About our only chance is to haywire something together. But remember, we still have to make a landing, somewhere, and that means a safety factor is somewhat to be desired."

"Not at all. If we can take off safely, we're in!"

"Explain. As I was taught in school, anyone can fly a spaceship, but it takes a pilot to land one."

"Sure, but remember you'll be stopping off at the Lens. We've got replacements there that will enable you to make space repairs and go on from there in safety."

"Didn't think of that. Well, here's the mess!"

McBride needed no close inspection to see that the alphasatron was definitely defunct. A foul smell, faint, ephemerally pungent, permeated the room. It was the smell of burned synthetic coil dope and field-winding varnish which has been described as smelling something like a frying toupee.

"Not only dead," was his cryptic remark, "but dead and suted!"

"Fricasseed," corrected Hammond. "Anything we can do?"

"Is the winding intact?"

"We thought of that, too. Nope. Electrical inspection indicates that the winding is melted together in several places. You couldn't unwind the coil, let alone rewind it with fresh insulation. We've got a couple of gallons of insulation handy, if you get a good idea."

"Not yet. But look, Hammond, have you tried the magnetogravitic spectrum yet?"

"No. That was our next program."

"I'd have tried that first," mused McBride. "Knowing that the drive depends upon the action of a cupralum bar under high magnetic density plus an electrogravitic warp, I should think that the close relationship between the magnetic and electronic phenomena would lead you to try the mag-grav first."

"I didn't want to start at the top," said Hammond dryly. "In spite of the fact that Dr. Ellson claimed to have discovered a region in the mag-grav spectrum that produced a faint success."

"Well, what I'm thinking is that we can rip up the E-grav generator and use the field coil for the alphasatron. It'll carry elec-

trons as well as it carries alphas, you know."

"Better," said Hammond. "But what do we use for an E-grav?"

"First we'll hunt up through the spectrum of the magnetogravitic spectrum. If that doesn't work, we can add the warp produced by your mech-grav, run from the lifeship's little alphas. Right?"

"It's an idea. Seems to me that I've heard somewhere that the combined warps of magneto- and mechanogravitic produces some vectors in the electrogravitic spectrum."

"Mind if I brag?" asked McBride. "That was in a paper I scribbled for the Interplanetary Gravitic Engineers. Purely a matter of making a few dimes, at the time there was nothing practical about it, since we had E-grav generators before we discovered the mechano- and magnetogravitics."

"We?" grinned Hammond. "You were still three generations in the future at the time, grandpa. But it's worth a try."

"Never thought that my effort was going to be worth a hoot," smiled John McBride. "Let's give it a whirl."

"O.K. I'll call the gang." Steve Hammond stepped to the communicator and spoke. "Jimmy, Pete, Larry! Come a-running and bring your cutting pliers!"

From what was obviously three different parts of the ship, three voices answered.

Pete arrived first. "Meet John McBride of the Plutonian Lens," introduced Hammond. "This is Pete, whose whole name is Peter Thurman, and who is the guy who knows all about drive equipment."

Pete grinned. "You see us hitting sky at two hundred feet per," he said, shaking McBride's hand.

Jimmy arrived, with Larry not far behind. "These are James Wilson and Lawrence Timkins, respectively. Jimmy is the alphas expert, and Larry knows all there is to know about electrical circuits and wiring."

"He's ribbing me about those relays," laughed Larry, while Jimmy was saying: "Y'smell that smell? That was my pride and joy."

"Tell me," asked McBride, "what does he do?"

"Who, Steve? Oh he's just the bird that wanted the things done that resulted in this mess. He's primarily responsible."

"Hm-m-m. That puts the fix on the whole thing," said McBride. "Well, fellow, you've

heard about Enid. I've got to get home. If we can fake up something so that the *Haywire Queen* will cut loose with a couple of hundred feet per for long enough to get me to Station 1, I'll see that your ruined equipment is replaced so that you can make a safe landing. Say! How come you do not carry a spare alphas?"

"Why doesn't man come with two hearts?" asked Jimmy. "That's because they're usually dependable. No one ever tried to run two brains off of one heart—that's why one heart stands up pretty well. I can imagine the trouble that would result if two involuntary control centers were running the same heart—it would be something like what happened when the mech-grav made the E-grav cut in—something would blow a fuse."

They laughed, and then Hammond explained about the program. "Right away quick we'll try the mech-grav along with the mag-grav. That sounds like our best bet for something that works. Also breach the lifeship and sabotage the little alphas for the mech-grav. Might as well have it down here where it's needed." In an aside to McBride, he added: "Is this like your place? No fuses, no safety devices, no spare equipment because some screwball is always filching something off of a bit of standard equipment to make an experimental set-up?"

"Anything but the running and operating gear of the Lens stations," said McBride, "is subject to change without notice. I've even seen a spare mech-grav generator used to counterbalance Jim Lear's teeter-totter. Jim's dad is on Station 3 and there isn't any kid of that size and age on Three. Did a good job, too, since Bob Lear fixed the mech-grav density control with a switch that urged the far end of the plank so that Jim was lifted and dropped at the right speed."

"Sort of expensive counterbalance, wasn't it?"

"I suppose so, but Bob said it was better than having to crank his son up and down by hand. Besides, we have lots of power out at the Lens." McBride paused. "Say. Do you run the *Haywire Queen* with this crew? Who's pilot?"

"Hannigan. But he got hurt when the works blew up. He ran us in all right, though any of us can take a trick at landing. But he's taking a rest cure to soothe his nerves; they got a scrambling from too much electricity."

"Too bad."

"No so bad. Just made him jittery. He'll be all right in a week. But we won't have to run home without a pilot. I've got one coming out in a couple of hours. Drake. Ever heard of a pilot named Drake?"

"Seems to me that the name is familiar," said McBride slowly. "But not too clear. I'll know him when I see him."

"I won't. Conducted the hiring by mail, and then gave him a call when the need came—your need, I mean. They told me that Drake was out of the building, but that he'd be at Hellsport as soon as they could find him. Has a pretty good record, too, save for one thing—"

"Steve," said one of the men, "can you give us a lift? The *Beetle's* alphasat is somewhat heavier than we can handle around this corner."

"Sure. And the next time we're at Terra, have 'em fix the hoist rail, huh?"

Wires, bunched cables, and scraps were a tangled mess on the floor. Tools were strewn about in profusion. A box of nuts and bolts had overturned and cascaded the small parts across the floor below the workbench. But the work was progressing in fine shape in spite of the seeming confusion and messiness. To someone who knew these men, it was obvious that they knew their business and how to use their tools even though the place was ankle deep in junk. To someone who knew them not, the place looked like a junk shop.

"Is this the place where the finest brains in space work out the intricate problems?" asked a cool contralto with a cynical tone.

McBride, who had just finished welding a small angle bracket on the bottom of the mech-grav generator, looked up, blinked, did a double take, and then stood up. The torch burned the air in his limp fingers, wasting the canned gas.

"You! Drake! Sandra Drake!"

"Is there another?" asked the saucy voice.

"I thought that Sandy was a nickname," snapped Hammond.

"It's Sandra," said she, "and it looks to me that your friend McBride is always up to his ears in junk!"

John extinguished the torch and advanced upon the picturesque redhead. "Have you still got your license?" he asked. "After that stunt you pulled—"

"Your political pals took away my private license, but I'm still registered as a pilot. This, I've been told, is an emergency, and,

therefore, I am compelled to run your junk-heap for you. I'm willing for no other reason than the fact that my assistance to you in your so-called time of need will be instrumental in getting my private license back. Are you ready to go—and where?"

"We're about ready to try," said Steve.

"Try?" scorned Sandra. The perfect features twisted in a sneer. "Aren't the best brains working today?"

"Look, Pilot Drake, this is an experimental crate from way back," snapped Hammond. "You're likely to find yourself drinking coffee out of a relay-shield. We blew out the only alphasat this side of Jupiter by mishap, and John and we have been trying to gain the same effect by trusting to an experiment made several years ago but abandoned."

"I think I'll have none of it," snorted Drake. "I'd like to see a little more of the solar system before I die. You can get some other fool to run your patched-up ash can."

"Drake," said Steve Hammond, "if you do not run this crate for us—or at least try as hard as we are trying—I'll personally see that you are mentioned whenever skunks, lizards, and butyl mercaptan are talked about. This is an emergency."

"Mind telling me just what type of life-and-death run you're going for?" asked Sandra, loftily.

"Enid McBride is hurt and needs him," said Hammond, pointing at John. "There's a small matter involved—a small matter of a baby's life, possibly. If John can get there in time, his presence will give Enid the amount of lift she needs. Get me?"

"Baby?" sneered Sandra. "What woman in her right mind would have—"

"Your mother," snapped Hammond, "and she made a mistake. Now will you rectify her error and do something of value for once in your ill-used twenty-four years?"

"I've no choice," said Drake. "I'll do it. But—"

"No buts. You're under suspension right now, and how you handle the *Haywire Queen* marks your card. Take it—or take it!"

"Where's the pilot room?" asked Sandra in a cool tone.

"Below—where it usually is in a ship of this type. Your orders will be coming soon enough, I hope."

"And our destination will probably be Station 1?"

"Right. Will you need navigational details?"



"I can work them out."

Drake left, and the men put the finishing touches on the double-warp set-up. Hammond turned the equipment on, running them at test power while Jimmy and McBride adjusted the generators for maximum output.

Pete inspected the myriad of little glowing lights on the informer panel and said that the ship was working properly from dome to foot.

"Grab a rolling chair," said Hammond to McBride. Then he snapped the communicator and said: "Drake. Up at twenty feet per."

"Up at twenty feet per second per second acceleration," responded Sandra in that flat, personless voice.

"We hope," said Steve with a short laugh.

An alarm gong sounded through the open communicator, and directly afterward, the men in the power room could hear the relays closing. In the room above them, an oil switch closed with a crashing sound, its racket hardly muffled by the steel-grating floor. A rheostat whirled as it followed the impulses sent from the control board in the pilot's room; it whisked over a dozen contacts and came to rest. Four big pilot lights winked into brilliance above the informer panel, indicating that the ship was, 1.: Airtight; 2.: Properly air-conditioned; 3.: Possessed of sufficient power for flight; and 4.: Ready to lift. Behind a two-foot dial, a diffused light glowed, illuminating the face which would indicate the acceleration in feet per second. A small dynamotor whined up the scale and into the region of inaudibility, and a series of safe lights went on; lights that would be on all the time regardless of what happened to the rest of the operating equipment. The meters of the alphanatron moved slightly, and then leaped toward the top peg, stopping before they hit as the meter-sensitivity was cut accordingly. The mag-grav generator meters followed suit, and then the mech-grav meters went through the same dance. Then, far above them in the larger part of the ship, a remotely controlled tap on a bank of high-powered resistors made two steps forward, and an oil switch that connected the drive's electronic requirements to the closed-system turbine went home. Energy charged the gravitic equipment with operating power—

And the *Haywire Queen* lifted upward!

The accelerometer moved quickly up the scale toward twenty.

"We made it!" yelled Jimmy Wilson.

"We're in!" shouted Pete Thurman.

"Thank God!" breathed McBride. "I'm going to call the Lens and tell Doc Caldwell that I'm on the way— Hammond, what is that woman doing?"

The accelerometer had passed twenty, and was approaching twenty-five.

"Probably bunged the accelerometers out of sync when we crash-landed," said Hammond. "They're the standard Hooke Accelerometers, you know, and we may have stretched the spring a bit. She'll stop soon."

"It's all right," said McBride. "It just makes us get there sooner, but she shouldn't be playing with the drive this close to Pluto. If we've missed something, we'll smack."

The meter passed thirty and headed for forty feet per second per second.

"Little over one Terran G," mentioned Pete. "She probably has the usual Pilot's Fever."

"I know," agreed Hammond, "but her inherent desire to grab sky shouldn't make her play foolish with a brand-new drive."

The meter touched fifty for an instant and then went on up toward sixty. It did not stop at the green line that indicated two Terran G, but passed it and proceeded on toward seventy feet per. It climbed to eighty, passed, approached ninety, passed, and still climbed with a precise linearity that made the men admire the steady hand on the main power lever in spite of whose hand it was.

At one hundred feet per second per second, Hammond said: "When is that dame going to stop?"

"Call her down," suggested Larry.

"Better wait. No use making her nervous this close to Pluto. Bawl her out and she's likely to make the wrong move—and one move would be too much!"

The pressure of 4-G held them to their padded seats, and their heads were fixed immobile in the head braces, all watching the dial climb. It passed one-thirty, went on up the dial to one-forty, and then the voice of Sandra Drake said, weakly:

"When are you fools going to stop?"

Hammond gaped. "Who? Us?"

"Who else?" snapped Drake.

The meter touched one-fifty.

"We're not doing anything. Level off, Drake, or you'll squash us flat!"

"You level off. I haven't had the power lever since I adjusted it before I hit the main switch. I can't even lift my arm now; I didn't expect you to run this heap of

junk from up there and so I didn't adjust the arm rest."

The dial crept up past one-sixty.

"But we're not running it from here," yelled McBride. "We haven't touched a thing since Hammond told you to take it up at twenty feet per."

The automatic respirators started to work, pumping their rib-cages in rhythm with their own breathing urges, and they sank into the enveloping folds of the elastomer cushions which supported their bodies. The meter hit one-seventy and passed it.

"Then who is running the soup up?" came back the labored voice of Sandra Drake. "If this is just a joke, cut it. I can't take much more."

"You—and all of us are doing well to take what we're getting now," stormed McBride. "Who—"

"Something's amiss somewhere," said Hammond thoughtfully. "At this point, any gagster would quit. Look at the meter. One hundred and ninety feet per! Almost 7-G! Uh—"

Black waves and dizziness came, shrouding little dazzles of colored pinpoints that danced before the eyes. The meter touched two hundred feet per second per second acceleration, and then the drive was cut with a snap. The compressed elastomer rebounded, almost throwing the men from their chairs, but the cover bars held them in.

The drive was completely off; acceleration zero.

"Drake! Get the inertia switch in again!" called Hammond.

"Going in," came the weakened voice of the pilot.

The original twenty feet per started again, and it began to climb, just as it did before. "Stay alive," said Hammond to Drake. "We need you to shove the inertia switch in if nothing else."

"I don't care to die," came her hard voice. "I'll keep alive. You pack of fools figure out what's wrong with your invention, that's all I ask."

"Can you crank the inertia switch down to about 5-G?" asked Pete. "Make it a hundred and fifty feet per. Then sit there and shove it in every time it comes out until we can get out of Pluto's grip. We've got to have a stable place before we can do any fixing."

"You and your jackrabbit drive," jeered Sandra Drake. "Concocted by the best brains in space. Baloney—the best space in brains, I call 'em."

"Some day," promised McBride, "I'm going to spank that woman—with a hairbrush."

The meter rode up steadily to one-fifty, and then dropped to zero with a click. The oil switch closed again, and the meter started up the scale once again. This time McBride timed it.

"Steve," he said. "We're running at twenty per, original setting, and the acceleration is increasing at the rate of twenty feet per, also. That means our velocity is increasing at the rate of twenty feet per second per second per second."

"Something screwy. Larry, grab a few tools and ride below and fix that inertia switch so that it will close automatically. No use making Drake sit there punching on that control button every seven and one half seconds. We're going to be running this way for a couple of hours before we get to safe space."

"A couple of hours?" groaned Drake. "Listen, geniuses, is there any reason why I couldn't flatten this chair out? This is killing me."

"Look, Larry, make that switch cut out at 2-G. Sandra, set your drive for 1-G. It'll jerk our guts to pieces, but we'll be doing about the same as any ship under a 1-G drive—no, we'll be doing better. Something in this heap is making us accelerate our acceleration; we're working on the second derivative. That means—"

"That means," put in McBride, "that we're running on the rate of change of acceleration, which is the rate of change of velocity. Now under this drive, we have a new factor, which we can call 'R' and which stands for the rate of change of acceleration. Then, since our acceleration is increasing with respect to time, the linear equation:  $V=AT$  no longer holds to express our velocity at the end of T seconds. Our first equation under this rule becomes one to find the acceleration after T seconds under R rate of change of acceleration. Follow? We have Equation One:

$$(1) \quad A=RT$$

Then to find the true velocity at the end of T seconds and so forth, we take the integral of that, and we have:

$$(2) \quad V=\frac{1}{2}RT^2$$

To get the distance covered in T seconds at R rate of change, we integrate once more and come up with . . . ah, let's see— Oh, sure:

$$(3) \quad D=\frac{1}{6}RT^3$$

Is that clear?"

"I'd like to see that one worked out on a blackboard," said Jimmy. "At the present, I'll take your word for it. What I'm interested in right now is: does this factor 'R' increase with the power setting?"

"Drake just lifted it to thirty feet per," said Hammond, "and I've been timing it. So far, it does."

"Steve," said McBride, "if we can figure out some way of keeping ourselves from getting killed as the acceleration hits the upper brackets, we'll have a drive that will get us places like fury. Think fast, brother."

Hammond looked up, just as the acceleration reached a peak, and it snapped his head sharply. "Whew," he said. "This is fine stuff, but we couldn't run anywhere very long this way. We'd shake the whole crate loose." He was thoughtful for a minute. "Don't suppose that blackboard mind of yours could figure out our course constants from this saw-toothed curve we're running?"

"Sure," grinned McBride. "Since the thing is not increasing constantly, but is returning to zero accel each time and then building up linearly to peak, our over-all, long-time acceleration is equivalent to the average acceleration. Besides, what difference does it make? We'll get there somehow, and we can probably plot well enough to keep from doing a lot of return-chasing to hit the lens."

"O.K., but we're going to have to figure a way out of this. I couldn't stand knowing anything like this drive without trying to make it practical."

"Wait until we can talk without getting our tongues bitten off by this drive of yours, and we'll go to work on it."

McBride said: "And I'd say let's do it quick! Enid needs me—"

Sandra Drake forced the jack-rabbitting ship into a cockeyed orbit about Pluto after a couple of hours. They had nosebleed, jittery nerves, aching muscles, and voracious appetites by the time the drive was cut. They ate, smoked, took showers, and then decided to call a conference.

Hammond opened it by saying: "There's one quick way to do this. It's on everybody's tongue, but I have the floor and I'll voice it first. To keep from getting squashed by our own weight under a few thousand feet per, we need something to take up the shock—something to counterbalance the gravity-apparent. Jimmy, how many mechanogravitic generators have we aboard?"

"Two, including the one we're running in the drive right now. It is as big, however."

"How's the output of our patched-together alphasatron?"

"Plenty. The coil of the E-grav was much oversize, and since electrons will rush in where alphons fear to tread, we've plenty of soup."

"Then we'll set the other mech-grav up in the nose, and extend the warp down to envelop the ship. Right?"

"Right. And now for some kind of safety factor? Supposing something goes blooey?" asked Pete. "And how do we maintain the relationship between the drive's power and the counter-drive's attraction?"

"Weight-driven power controls for the counter-drive. Inertia switches for safety. Interlocking circuits for every factor so that either the drive failure will knock out the counter-drive, or vice versa. We'll build this like an electric lock, so that the whole shebang must be right on the button before she'll move. Then the failure of any part to perform will stop all parts simultaneously. It'll probably be jerky at first, but the prime function is to get Mac to Station 1, and from there on in we can tinker with this thing until hell freezes over. O.K., let's hustle the mech-grav into the nose."

Installing the mech-grav generator in the nose of the ship was not a difficult job, since it weighed exactly nothing with the ship in an orbit about Pluto. But the intricate job of hooking the equipment together was to be more difficult.

They rammed holes in the bulkheads to pass cables. They tore out whole sections of unimportant wiring circuits to get wire for the interlocking circuits—and when the terminals were there, the relays and inertia switches had to be made or converted from existing equipment.

Sandra Drake was of little help. She could make the ship perform to within a thousandth of an inch of its design, and perhaps add a few items that the designers hadn't included, but her knowledge of the works was small. She hadn't thought it necessary or desirable to understand, beyond the rudiments, how the drive worked.

In fact, up to the present time she had scorned the knowledge of any higher intricacies; her idea had always been that men were paid to think these things out and she was in a position to pay them for their knowledge. Let them do it, and give them hell if it was not right. Her hiring them automatically gave her the right to order

them around like slaves, and since the laws that govern space travel are such that a ship's pilot or owner may demand attention to the ship, Sandra demanded such attention, needed or not.

But this was the second time in less than a year that she had seen men working with equipment. Before, it had been her fault, and she had sniffed at their labors in a scornful attitude, gaining their hatred as she had gained the dislike of so many others.

This time it was slightly different. She had been sandbagged into this job and now it seemed as though her own life depended upon the clearness of the minds of the men who worked over the equipment.

So she entered this strange world of nuts and bolts and small tools strewn around in profusion, and stood amazed at the order that was being worked out of chaos. It was apparent to her that some semblance to order must be present, since they knew where to turn to pick up the right tool, and because the right part was always less than a foot from their ready hands.

A headstrong, spoiled brat she may have been, but Sandra Drake was by no means unintelligent. After John McBride had cut off a tiny lathe-turning just in time to hand it to Pete, who seemed to need it at exactly that moment to fit into his instrument, Sandra said to McBride: "Is there any pattern to all this mess?"

"If there weren't, we'd really be in a mess." He opened the chuck, advanced the rod a few inches, and started to turn the rod down to size again.

"This," said Sandra in that infuriating voice, "is order, neatness, and efficiency?"

"We like it," answered McBride, his eyes on the cross-feed vernier. "It may not look like a drawing room, but we know what we're doing."

"Do you? Is this a sample of how the place looks every time the *Haywire Queen* goes out to experiment?"

"Undoubtedly."

"Why couldn't it be neat and clean?"

"Because we can't replace every tool back in the cabinet when we are ready to lay it down for a minute. Because it is far better to run cutting chips all over the floor and sweep 'em up once instead of running the broom every seven seconds after each chip. Because it is easier to work this way."

"Well," said Sandra, unimpressed, "the *Haywire Queen* seems deserving of her name."

"There have been a lot of ticklish space problems fought out in her," replied McBride. "Just as we're fighting one now."

"But where are your drawings? Where are your plans? Where are your calculations?"

"Our drawings will be made by draftsmen when we make the thing work," answered McBride. "No sense in having a sheaf of drawings when we'll change the thing a dozen times before it is perfected. Our plans are step-by-step, and any result from one step may change our next step. Our calculations and mathematical deductions will be handled by brilliant mathematicians who can twist simple formulas around to fit the observed data by adding or subtracting abstract terms that fit the case."

"Sounds slightly slipshod to me."

McBride cut the part from the bar and handed it to Pete. "Enough?" he asked, and Pete nodded over his shoulder.

"You can start on part two," he called.

McBride replaced the bar with a larger one and started to work it into shape. "We don't need drawings," he said. "I know what Pete wants and how they should fit together and they're fairly simple parts. He knows what he wants and knows that I know also, so why should we make a lot of sketches for something trivial?"

"It seems to me that this is far from trivial," said Sandra pettishly. "You're playing with the lives of us all."

"Your life wasn't worth a peanut when you tried to run through the lens," said McBride. "Why quibble now?"

"I lived through it," said Drake.

"You'll live through this, perhaps," said McBride. "Besides, we're not too worried about our own lives. We're all willing to take a chance on them for Enid."

"Yeah?" drawled Sandra sourly. "How about the rest of them? That's only speaking for yourself."

Steve Hammond called from across the room: "What he said still goes. He'd do as much for me!"

"Just a big bunch of mutual admirers," sneered Sandra. "Always sticking together in a pinch."

"What's wrong with that?"

"Why didn't you think of your wife a long time ago instead of worrying now. Fine show of nerves for the public consumption!"

"Miss Drake, as far as we are concerned, you haven't been properly treated. Somewhere in the Good Book is a reference to sparing the rod and spoiling the child. Do

your parents twist their faces in anguish every time they see you? They should. Any-one who has foisted upon this solar system a stinking little, unfeeling rotter like yourself should hate to be alone with their thoughts. Now get out of here and let us alone."

Sandra moved back at the harshness of his voice. McBride looked behind her and instinctively put out a hand to stop her; but Sandra thought that the move meant violence and moved back faster. She collided with a dangling wire from the alpha-tron and went rigid. She toppled, as stiff as a board.

"Great Space!" exploded Hammond. "Jimmy, how much was that?"

"Nine hundred alphons," answered Jimmy, looking at the meters on the alpha-tron and making a quick calculation. "Not enough to harm. She's just had all of her voluntary nervous system paralyzed."

McBride stooped, picked her up, and carried her to a work-chair, which he kicked horizontal with his foot and dropped her into it. He went to the medicine cabinet and filled a hypo which he shot into her arm. Gradually her too-regular breathing became humanly irregular again and she moved to get up.

"Stay there," said McBride.

"Rest a bit," advised Hammond.

"And remember next time," warned Jimmy, "that this kind of a place is no place to walk backwards. Another two hundred alphons—and that is far from impossible—and you'd have been extremely dead." He wiped his forehead with a dirty cloth, mopping the beads of nervous perspiration away.

"I suppose that would have left you without a pilot," said Sandra. Her sharp remark lacked her usual conviction, however, and she realized that it fell flat. She got out of the chair and left abruptly.

"Well, I'll be—"

"Be careful," said Larry. "She isn't worth it."

"I'm going to take the bad taste out of my mouth by calling the Lens," announced McBride.

"Go ahead," offered Pete. "We'll polish off here and by the time you're through, we'll make a stab at it!"

McBride got a through connection to Station 1, and Dr. Caldwell came to the phone.

"Doc," asked McBride. "How's Enid?"

"Touch and go, lad. We're still fighting."

"Bad?"

"I'm afraid to say 'no' to that one," answered Caldwell in a tight voice.

"What does she say?"

"She's been in a coma ever since the fall, except for a minute or two in which she called for you. John, I shouldn't have sent you away."

"Don't worry about that one. After all, you didn't know she was going to take a header."

"Yeah, but—"

"You fix her up and we'll forget it."

"But suppose—"

"Doc, is it that bad?"

"I can not deny that she would be infinitely better off if you were here. She needs an emotional lift."

"I'm trying."

"I know, lad, but the next ship off of Pluto is in five days and then four more days of flight at a killing drive. Nine interminable days."

McBride debated the advisability of telling Caldwell of their experiment, but decided against it. If he said anything about the possibility of getting there sooner, Caldwell might tell Enid on the chance that it might do her some good. On the other hand, if Enid thought he were coming, and he did not come, the shock—

"O.K., Doc. We'll get there somehow."

"We'll keep fighting," said Caldwell.

He hung up the phone as Hammond spoke into the communicator. "Sunward at thirty feet per," he said.

"Thirty feet per," answered Drake. "And may we not get burned!"

"Trusting soul," observed Hammond.

Sandra thrust the main lever home with a savage motion. Deftly she juggled the steering levers until the ship pointed at Sol. "We're off," she said. "Hold your hats!"

The accelerometer climbed by the second. It hit one hundred feet per, and then slowed in its climb, approaching one twenty in an exponential curve. In the other room, a step-by-step switch continued to click off the contacts, and the generators in the turbine room whined higher and higher up the scale. Minutes passed and became a half hour.

"We're in," said McBride, with a deep exhalation. "But how in the name of sin can we tell what our acceleration is?"

"The Hooke type of accelerometer is useless when we neutralize the gravity-apparent," agreed Hammond. "We're going to have some inventing to do."

"I wonder what the limit of our acceleration is," said Jimmy. "It can't be infinite, because the mechanogravitic generator above can take only so much—"

The inertia switches went out with startling clicks, and the weight-loaded rheostats whirled home to zero. Relays danced madly as the acceleration went to zero once more.

"Right back where we started from," came the pained voice of Sandra Drake. "Can't you birds think of something practical?"

She thrust the main control home once more, hooking it up to the automatic circuit that Larry had installed. The acceleration began again. "Now we'll have some more jackrabbit drive—but with a longer jump," said Drake cynically.

"We'll have to limp all the way to the Lens on this drive," said McBride. "It isn't too good, but I can't see—"

"I'm tired of this jerky stuff," said Sandra Drake entering the room. "It seems to me that you should be able to duplicate the mess you have here by something similar up in the nose."

"Yes?" asked Steve Hammond politely. He was interested but not impressed.

"What I'm trying to say is this: Wouldn't a set-up similar to this space-eating drive also be capable of exerting mechanical attraction, thereby getting you a constantly increasing neutralizing force?"

Steve thought that one over. "Not bad. Not bad at all!"

Jimmy jumped to his feet. "It'll work, Steve. We'll have to induce the mechanogravitic force in a cupralum bar by secondary gravitic radiation, but it is a known phenomenon. Drakey, that's top!"

"Except for one thing," said Larry. "We're fresh out of magnetogravitic generators. Aside from that, we can run this heap all the way to Sirius."

Pete said: "Yeah, and if we did have one, we'd still be short a few thousand alphons. The alphas won't carry another generator, nor will the little one upstairs." He grinned at Sandra. "We're not tossing cold water on your suggestion. It'll work—but not right now."

"Then it was good?" asked Drake with the first question of honest awe she had used in years.

"Perfect," said McBride, cheerfully. "But not quite complete. We won't censure you for that, however, since we know that you haven't been hanging around space-warp engineers for the last ten years. You couldn't have known that this mag-grav generator

will do service on both ends. All we have to do is to direct the output on a two-lobe pattern instead of a single-lobe pattern, and set our induction bar up above in the field of the mechano-gravitic we've already got there. Jimmy, change the output pattern of the mag-grav and we'll hike aloft with the cupralum bar." He bowed at Sandra. "Thanks to that one, we'll be moving right along!"

Pilot Drake sent the power lever home at thirty feet per, and watched the accelerator climb to exactly thirty, where it stopped and hung. Minutes passed, and the meter read constant.

Steve Hammond smiled wider and wider as the minutes added into a quarter hour. "I think our cupralum hull is helping," he said.

"How?" asked Pete.

"Why, it is collecting enough leakage-warp to create a nice large warp of its own—in which we now travel, and in which the accelerometer reads only that factor 'R' of Mac's. That meter reads the rate of change of acceleration. Drake, step it up to sixty."

Sandra advanced the drive, and the meter went up to sixty even.

"We're on the ball," said Hammond.

"We sure are," said McBride, passing a forefinger over his cheek. "It's hot in here."

"I know. And you can call the Lens and tell the Doc we're on our way."

"I tried that. The lines were busy, so I shot 'em a gram. They know now that we're coming."

"I wonder if your math is correct," said Steve.

"Why?"

"If it is," explained Steve, "we'll be halfway to the Lens in three hours from start—no, wait a minute. We're running at sixty feet now. That means a little better than two hours! But if they are correct, we'll be hitting almost two times the speed of light. That is not possible."

"I think we'll do it," said McBride. "After all, we're in a space warp, and no one really knows whether the laws of the universe hold in a space warp. Drake hit the Lens at about ten thousand miles per second, was stopped in time to get to one of the fore lens stations, which must have been terrific deceleration—unthinkably high—and it didn't even muss her hair. We'll know in a bit when we are supposed to hit the speed of light."

"Then for the love of Mike, what is our limiting velocity?"

"The same as any of the gravitic spectra. Gravitic phenomena propagates at the speed of light raised to the power of 2.71828—That's our limiting velocity."

"Want to make any bets?"

"I don't mind. My guess is as good as yours."

"Better," admitted Steve.

Below, in the pilot room, Sandra Drake was having a state of nerves. She was alone in the driver's seat of a ship destined to exceed the speed of light, and she was scared. For some reason, the men who professed to shy at danger were arguing the possibilities of running above the speed of light while she, who had lived the life of an adventuresome girl, a daredevil, was worrying. She listened through the communicator at their argument and cursed under her breath.

They were going at it in a pedantic manner, hurling equations and theorems and postulates at one another like lawyers with a case for the supreme court, not men who were heading for God-Knows-What at a headlong pace under an ever-increasing acceleration.

There were all sorts of arguments as to the aspect of the sky as the speed of light was approached. And how it would look at a velocity of more than light. This went on for some time, with Steve Hammond holding out for blackout and John McBride holding for a sky that crawled forward due to the angle-vectors created by the ship's passage across the light rays, until the entire sky appeared before them—all the stars in the sky would be in the hemisphere in front of them, no constellation recognizable.

"But your supposition does not recognize the doppler effect," objected Hammond. "Visible light will be out of the visible spectrum."

"True enough. But solar radiation extends from down low in the electromagnetic scale to very very high in the extra-hard UV. Visible spectra will be dopplered into the UV, all right, but the radio waves will have an apparent frequency of light, and we shall see the stars by that, I think."

"With no change in color?" asked Hammond skeptically.

"There will be a change in color, naturally. We'll observe them in accordance with whatever long waves they emit; they will in no way resemble the familiar stars we know."

"How's a poor devil going to navigate at any rate?" asked Larry. "With everything out of place—or invisible—what's he going to use for signposts?"

"In normal usage, the super drive will be fine. We've been using autopilots for years and years, setting up the whole course from take-off to the last half hour of landing. We can still do it. We'll be flying blind, but so what? We fly pretty blind as it is; no one gives a rap about the sky outside. Instrument flying is our best bet."

"Well," said Hammond, "we'll see it soon enough. The color of the stars behind us are changing right now."

"They should. We're running at three quarters of light—and, Stevey Boy, they're still visible!"

Silently they watched the sky. Dead below them, a tiny black circle appeared and the stars that once occupied this circle were flowing away from it radially. It expanded, and the region of flow spread circularly, and the bowl of the sky moved like a fluid thing towards the top of the ship until the stars at their nose were crowding together. Stars appeared there, new stars caused by the crossing of electromagnetic waves from the rear, and the sky took on an alien sight.

For a long time the stars seemed to tighten in their positions above the ship, and then the warning bell rang and the ship swapped ends easily and the bowl of the sky was below them.

Then it began to return to the fore observation point of the *Haywire Queen* as the velocity of the ship dropped. The crawl started, and the black circle diminished until it was gone. The stars continued to regain their familiar color as the *Haywire Queen* approached the normal velocities used by mankind.

Five hours after their start, the *Haywire Queen* slid clumsily to a stop beside Station 1 and made a landing. She arced a bit, since the charge-generating equipment did not have the refinements of the Lens flitters for making the ship assume the charge of the destined station. But the arc was not too bad, and within a minute after the *Haywire Queen* touched the landing deck, John McBride was knocking on the door of Dr. Caldwell's office in the hospital.

Caldwell came out of the inner door to answer the summons, and he looked up at McBride and went dead-white.

"Mac! It's you?"

"Naturally," smiled McBride. "How's Enid?"



"How did you get here?" demanded Doc. "That's a long yarn, Doc, and it includes a whole engineering program, exceeding the velocity of light, and using a space warp as a traveling companion. How's Enid?"

"She was none too good, but we'll have her through now. Come on in!"

"First tell Tommy that the *Haywire Queen* is on the landing deck and that they're to have anything they need if we have to kill the lens to give it to them!"

"I heard that, John," said Tommy, coming in the door. "It's done." He turned on his heel and left immediately.

John approached the bedside. "Enid," he said softly.

Enid's eyes fluttered. A wave of pain passed across her face and she tried to move. McBride looked at the doctor.

"Go ahead, John," said Doc.

"Enid. I'm here. It's John."

Enid opened her mouth, gasped once, and said in a very weak voice: "John? Here?"

"Nowhere else."

"But you . . . were on . . . Pluto—?"

McBride thought that one over. How could he explain? He decided not to, and said: "I've been coming back for a long time, Enid. I'm here now—that's all that counts."

"Yes, John," said Enid.

"She'll be all right now," said Caldwell. "That's what she needed."

Another wave of pain crossed Enid's face, and a nurse came with a filled hypo.

Caldwell drew McBride out. "Another half hour will see her through," he told John. "You wait here and everything will be all right. I know that now, thank God."

Caldwell left McBride to re-enter Enid's room.

Steve Hammond and Sandra Drake entered the office. "How is she?" asked Hammond.

"Doc says she's going to be all right, now. I've seen her and Doc says she's perking up already."

"Good!" said Steve. "Drake, that was a nice piece of navigating. You hit Station 1 right on the nose."

Sandra felt a whole library of emotions, mixed together. She smiled a sickly smile and said: "I should have. I've been here before, remember?"

Hammond ignored the statement because he thought it sounded too much like bluster. "Drake," he said, "the *Haywire Queen* is

about ready to hop for Terra. Do you feel up to running it in?"

"Steve," snapped Sandra Drake, "I'm not going to let any idiot male handle the *Haywire Queen*, and don't you forget it! After all, I'm the only pilot in the solar system that knows how to run her! I'll personally strangle both you and whomever you think you're going to get for that job, understand?"

Sandra turned and left.

"What in the name of the seven hells has got that dame?" asked McBride.

"There are a lot of ways to kill a cat besides choking it to death with cream," said Hammond thoughtfully, "but the latter way is just as effective and sometimes a lot easier. Our she-barracuda has just hit the one thing that she can't fight."

"Huh?"

"Sure. We gave her credit for doing a good job. Willing, honest credit. No matter how she may profess to despise our opinion, she can't yell 'Liar' at us because that would mean that she thought that the praise meant nothing. She's got to agree with us, or deny that she did anything worthy. And she's been living in a world of her own, trying to prove that she is the stuff. So—get me?"

"Uh-huh, I suppose so. How're you set?"

"Pretty good. We've swiped all of your spare alphas and a couple more gravitic generators, and we'll butter the job up a little so that we won't worry about overloading the alphas. That'll take us an hour or so. How're you doing?"

"I dunno. Doc said wait here—and damnit, I'm running out of fingernails, cigarettes, and patience."

"Well hang tight. I'll be back from time to time to see how you're getting along—Hi, Doc? What's the good word?"

"It's good," sighed Dr. Caldwell.

"Honest?" yelled McBride. "Enid's O.K.?"

"Fine. From here on in it's a breeze. Oh, I forgot to tell you. She's had her son."

"She's what?" yelled McBride.

"Son. John McBride Junior, I presume. He's an ugly, carrot-colored, monkey-faced, regulsively wrinkled little monster, but Enid says he's the image of the old man."

McBride looked at Caldwell, and then rushed out to Enid's room.

"Image of the old man, hey?" asked Hammond.

"He'll develop," said Dr. Caldwell. "Junior is a Latent Image!"



# THE YEHUDI PRINCIPLE

By FREDERIC BROWN

*Maybe it was the Man Who Wasn't There, and maybe it was the subconscious and super-speed that obeyed the mental orders and wrote the story. But who got shot on the stairs?*

I AM going crazy.

Charlie Swann is going crazy, too. Maybe more than I am, because it was his dingbat. I mean, he made it and he thought he knew what it was and how it worked.

You see, Charlie was just kidding me when he told me it worked on the Yehudi principle. Or he thought he was.

"The Yehudi principle?" I said.

"The Yehudi principle," he repeated. "The principle of the little man who wasn't there. He does it."

"Does what?" I wanted to know.

The dingbat, I might interrupt myself to explain, was a headband. It fitted neatly around Charlie's noggin and there was a round black box not much bigger than a pillbox over his forehead. Also there was a round flat copper disk on each side of the band that fitted over each of Charlie's temples, and a strand of wire that ran down behind his ear into the breast pocket of his coat, where there was a little dry-cell battery.

It didn't look like it would do anything, except maybe either cure a headache or make it worse. But from the excited look on Charlie's face, I didn't think it was anything so commonplace as that.

"Does what?" I wanted to know.

"Whatever you want," said Charlie. "Within reason, of course. Not like moving a building or bringing you a locomotive. But any little thing you want done, he does it."

"Who does?"

"Yehudi."

I closed my eyes and counted to five, by ones. I *wasn't* going to ask "Who's Yehudi?"

I shoved aside a pile of papers on the bed—I'd been going through some old clunker manuscripts seeing if I could find something good enough to rewrite from a new angle—and sat down.

"O.K.," I said. "Tell him to bring me a drink."

"What kind?"

I looked at Charlie, and he didn't look like he was kidding. He had to be, of course, but—

"Gin buck," I told him. "A gin buck, with gin in it, if Yehudi knows what I mean."

"Hold out your hand," Charlie said.

I held out my hand. Charlie, not talking to me, said, "Bring Hank a gin buck, strong." And then he nodded his head.

Something happened either to Charlie or to my eyes, I didn't know which. For just a second, he got sort of misty. And then he looked normal again.

And I let out a kind of a yip and pulled my hand back, because my hand was wet with something cold. And there was a splashing noise and a wet puddle on the carpet right at my feet. Right under where my hand had been.

Charlie said, "You should have asked for it in a glass."

I looked at Charlie and then I looked at the puddle on the floor and then I looked at my hand. I stuck my index finger gingerly into my mouth and tasted.

Gin buck. With gin in it. I looked at Charlie again.

He asked, "Did I blur?"

"Listen, Charlie," I said, "I've known you for ten years, and we went to Tech together and— But you pull another gag like that, and I'll blur you, all right. I'll—"

"Watch closer this time," Charlie said. And again, looking off into space and not talking to me at all, he started talking. "Bring us a fifth of gin, in a bottle. Half a dozen lemons, sliced, on a plate. Two quart bottles of soda and a dish of ice cubes. Put it all on the table over there."

He nodded his head, just like he had before, and darned if he didn't blur. *Blur* was the best word for it.

"You blurred," I said. I was getting a slight headache.

"I thought so," he said. "But I was using a mirror when I tried it alone, and I thought

maybe it was my eyes. That's why I came over. You want to mix the drinks or shall I?"

I looked over at the table, and there was all the stuff he'd ordered. I swallowed a couple of times.

"It's real," Charlie said. He was breathing a little hard, with suppressed excitement. "It works, Hank. It *works*. We'll be rich! We can—"

Charlie kept on talking, but I got up slowly and went over to the table. The bottles and lemons and ice were really there. The bottles gurgled when shaken and the ice was cold.

In a minute I was going to find out how they got there. Meanwhile and right now, I needed a drink. I got a couple of glasses out of the medicine cabinet and the bottle opener out of the file cabinet, and I mixed two drinks, about half gin.

Then I thought of something. I asked Charlie, "Does Yehudi want a drink, too?"

Charlie grinned. "Two'll be enough," he told me.

"To start with, maybe," I said grimly. I handed him a drink—in a glass—and said, "To Y-Yehudi." I downed mine at a gulp and started mixing another.

Charlie said, "Me, too. Hey, wait a minute."

"Under present circumstances," I said, "a minute is a minute too long between drinks. In a minute, I shall wait a minute, but— Hey, why don't we let Yehudi mix 'em for us?"

"Just what I was going to suggest. Look, I want to try something. You put this headband on and tell him to. I want to watch you."

"Me?"

"You," he said. "It can't do any harm, and I want to be sure it works for everybody and not just for me. It may be that it's attuned merely to my brain. You try it."

"Me?" I said.

"You," he told me.

He'd taken it off and was holding it out to me, with the little flat dry cell dangling from it at the end of the wire. I took it and looked it over. It didn't look dangerous. There couldn't possibly be enough current in so tiny a battery to do any harm.

I put it on.

"Mix us some drinks," I said, and looked over at the table, but nothing happened.

"You got to nod just as you finish," Charlie said. "There's a little pendulum

affair in the box over your forehead that works the switch."

I said, "Mix us two gin bucks. In glasses, please." And nodded.

When my head came up again, there were the drinks, mixed.

"Blow me down," I said. And bent over to pick up my drink.

And there I was on the floor.

Charlie said, "Be careful, Hank. If you lean forward, that's the same as nodding. And don't nod or lean just as you say something you don't mean as an order."

"Fan me with a blowtorch," I said.

But I didn't nod. In fact, I didn't move. When I realized what I'd said, I held my neck so rigid that it hurt, and I didn't quite breathe for fear I'd swing that pendulum.

Very gingerly, so as not to tilt it, I reached up and took off the headband and put it down on the floor.

Then I got up and felt myself all over. There were bruises, but no contusions. I picked up the drink and drank it. It was a good drink, but I mixed the next one myself. With three-quarters gin.

With it in my hand, I circled around the headband, not coming within a yard of it, and sat down on the bed.

"Charlie," I said, "you've got something there. I don't know what it is, but what are we waiting for?"

"Meaning?" said Charlie.

"Meaning what any sensible man would mean. If that darned thing brings anything we ask for, well, let's make it a party. Which would you rather have, Hedy Lamarr or Betty Grable? I'll take the other."

He shook his head sadly. "There are limitations, Hank. Maybe I'd better explain."

"Personally," I said, "I would prefer Hedy to an explanation, but go ahead. Let's start with Yehudi. The only two Yehudis I know are Yehudi Menuhin, the violinist, and Yehudi, the little man who wasn't there. Somehow I don't think Menuhin brought us that gin, so—"

"He didn't. For that matter, neither did the little man who wasn't there. I was kidding you, Hank. There isn't any little man who wasn't there."

"Oh," I said. I repeated it slowly, or started to. "There—isn't—any—little—man—who—wasn't—" I gave up. "I think I begin to see," I said. "What you mean is that there wasn't any little man who isn't here. But then, who's Yehudi?"

"There isn't any Yehudi, Hank. But the

name, the idea, fitted so well that I called it that for short."

"And what do you call it for long?"

"The automaton autosuggestive subvibratory superaccelerator."

I drank the rest of my drink.

"Lovely," I said. "I like the Yehudi principle better, though. But there's just one thing. Who brought us that drink-stuff? The gin and soda and the so forth?"

"I did. And you mixed our second-last, as well as our last drink. Now do you understand?"

"In a word," I said, "not exactly."

Charlie sighed. "A field is set up between the temple-plates which accelerates, several thousand times, the molecular vibration and thereby the speed of organic matter—the brain, and thereby the body. The command given just before the switch is thrown acts as an autosuggestion and you carry out the order you've just given yourself. But so rapidly that no one can see you move; just a momentary blur as you move off and come back in practically the same instant. Is that clear?"

"Sure," I told him. "Except for one thing. Who's Yehudi?"

I went to the table and started mixing two more drinks. Seven-eighths gin.

Charlie said patiently. "The action is so rapid that it does not impress itself upon your memory. For some reason the memory is not affected by the acceleration. The effect—both to the user and to the observer—is of the spontaneous obedience of a command by . . . well, by the little man who wasn't there."

"Yehudi?"

"Why not?"

"Why not why not?" I asked. "Here, have another drink. It's a bit weak, but so am I. So you got this gin, huh? Where?"

"Probably the nearest tavern. I don't remember."

"Pay for it?"

He pulled out his wallet and opened it. "There's a fin missing. I probably left it in the register. My subconscious must be honest."

"But what good is it?" I demanded. "I don't mean your subconscious, Charlie, I mean the Yehudi principle. You could have just as easy bought that gin on the way here. I could just as easy have mixed a drink and known I was doing it. And if you're sure it can't go bring us Hedy Lamarr and Betty Gra—"

"It can't. Look, it can't do anything that

you yourself can't do. It isn't an it. It's you. Get that through your head, Hank, and you'll understand."

"But what good is it?"

He sighed again. "The real purpose of it is *not* to run errands for gin and mix drinks. That was just a demonstration. The real purpose—"

"Wait," I said. "Speaking of drinks, wait. It's a long time since I had one."

I made the table, tacking only twice, and this time I didn't bother with the soda. I put a little lemon and an ice cube in each glass of gin.

Charlie tasted his and made a wry face.

I tasted mine. "Sour," I said. "I should have left out the lemon. And we better drink them quick before the ice cubes start to melt or they'll be weak."

"The real purpose," said Charlie, "is—"

"Wait," I said. "You could be wrong, you know. About the limitations. I'm going to put that headband on and tell Yehudi to bring us Hedy and—"

"Don't be a sap, Hank. I made the thing. I know how it works. You can't get Hedy Lamarr or Betty Grable or Brooklyn Bridge."

"You're positive?"

"Of course."

That's what a sap I was. I believed him. I mixed two more drinks, using gin and two glasses this time, and then I sat down on the edge of the bed, which was swaying gently from side to side.

"All right," I said, "I can take it now. What is the real purpose of it?"

Charlie Swann blinked several times and seemed to be having trouble bringing his eyes into focus on me. He asked, "The real purpose of what?"

I enunciated slowly and carefully. "Of the automaton autosuggestive subvibratory superaccelerator. Yehudi, to me."

"Oh, that," said Charlie.

"That," I said. "What is its real purpose?"

"It's like this. Suppose you got something to do that you've got to do in a hurry. Or something that you've got to do, and don't want to do. You could—"

"Like writing a story?" I asked.

"Like writing a story," he said, "or painting a house, or washing a mess of dishes, or shoveling the sidewalk, or . . . or doing anything else you've got to do but don't want to do. Look, you put it on and tell yourself—"

"Yehudi," I said.

"Tell Yehudi to do it, and it's done. Sure, you do it, but you don't know that you do, so it doesn't hurt. And it gets done quicker."

"You blur," I said.

He held up his glass and looked through it at the electric light. It was empty. The glass, not the electric light.

He said, "You blur."

"Who?"

He didn't answer. He seemed to be swinging, chair and all, in an arc about a yard long. It made me dizzy to look at him, so I closed my eyes, but that was worse so I opened them again.

I said, "A story?"

"Sure."

"I got to write a story," I said, "but why should I? I mean, why not let Yehudi do it?"

I went over and put on the headband. No extraneous remarks this time, I told myself. Stick to the point.

"Write a story," I said.

I nodded. Nothing happened.

But then I remembered that, as far as I was supposed to know, nothing was supposed to happen. I walked over to the typewriter desk and looked.

There was a white sheet and a yellow sheet in the typewriter, with a carbon between them. The page was about half filled with typing and then down at the bottom were two words by themselves. I couldn't read them. I took my glasses off and still I couldn't, so I put them back on and put my face down within inches of the typewriter and concentrated. The words were "The End."

I looked over alongside the typewriter and there was a neat, but small pile of typed sheets, alternate white and yellow.

It was wonderful. I'd written a story. If my subconscious mind had anything on the ball, it might be the best story I'd ever written.

Too bad I wasn't quite in shape to read it. I'd have to see an optometrist about new glasses. Or something.

"Charlie," I said, "I wrote a story."

"When?"

"Just now."

"I didn't see you."

"I blurred," I said. "But you weren't looking."

I was back sitting on the bed. I don't remember getting there.

"Charlie," I said, "it's wonderful!"

"What's wonderful?"

"Everything. Life. Birdies in the trees. Pretzels. A story in less than a second! One second a week I have to work from now on. No more school, no more books, no more teacher's sassy looks! Charlie, it's wonderful!"

He seemed to wake up. He said, "Hank, you're just *beginning* to see the possibilities. They're almost endless, for any profession. Almost *anything*."

"Except," I said sadly. "Hedy Lamarr and Betty Grable."

"You've got a one-track mind."

"Two-track," I said, "I'd settle for either. Charlie, are you *positive*—"

Wearily, "Yes." Or that was what he meant to say; it came out "Yesh."

"Charlie," I said, "You've been drinking. Care if I *try*?"

"Shoot yourself."

"Huh? Oh, you mean *suit* yourself. O.K., then I'll—"

"Thass what I shaid," Charlie said. "Suit yourself."

"You did not."

"What did I shay, then?"

I said, "You shaid . . . I mean said: 'Shoot yourself.'"

Even Jove nods.

Only Jove doesn't wear a headband like the one I still had on. Or maybe, come to think of it, he does. It would explain a lot of things.

I must have nodded, because there was the sound of a shot.

I let out a yell and jumped up, and Charlie jumped up too. He looked sober.

He said, "Hank, you had that thing on. Are you—?"

I was looking down at myself and there wasn't any blood on the front of my shirt. Nor any pain anywhere. Nor anything.

I quit shaking. I looked at Charlie; he wasn't shot, either.

I said, "But who—? What—?"

"Hank," he said. "That shot wasn't in this room at all. It was outside, in the hallway, or on the stair."

"On the stair?" Something prickled at the back of my mind. What about a stair? *I saw a man upon the stair, a little man who was not there. He was not there again today. Gee, I wish he'd go away—*

"Charlie," I said, "*It was Yehudi!* He shot himself because I said 'Shoot yourself' and the pendulum swung. You were wrong about it being an . . . an automaton auto-suggestive whatzit. It was Yehudi doing it all the time. It was—"

"Shut up," he said.

But he went over and opened the door and I followed him and we went out in the hallway.

There was a decided smell of burnt powder. It seemed to come from about halfway up the stairs because it got stronger as we neared that point.

"Nobody there," Charlie said, shakily.

In an awed voice I said, "*He was not there again today. Gee, I wish—*"

"Shut up," said Charlie sharply.

We went back into my room.

"Sit down," Charlie said. "We got to figure this out. You said 'Shoot yourself' and either nodded or swayed forward. But you didn't shoot yourself. The shot came from—" He shook his head, trying to clear it.

"Let's have some coffee," he suggested. "Some hot, black coffee. Have you got— Hey, you're still wearing that headband. Get us some, but for Heaven's sake be careful."

I said, "Bring us two cups of hot black coffee." And I nodded, but it didn't work. Somehow I'd known it wouldn't.

Charlie grabbed the band off my head. He put it on and tried it himself.

I said, "Yehudi's dead. He shot himself. That thing's no good any more. So I'll make the coffee."

I put the kettle on the hot plate. "Charlie," I said, "look, suppose it was Yehudi doing that stuff. Well, how do you know what his limitations were? Look, maybe he *could* have brought us Hedy—"

"Shut up," said Charlie. "I'm trying to think."

I shut up and let him think.

And by the time I had the coffee made, I realized how silly I'd been talking.

I brought the coffee. By that time, Charlie had the lid off the pill-box affair and was examining its innards. I could see the little pendulum that worked the switch, and a lot of wires.

He said, "I don't understand it. There's nothing broken."

"Maybe the battery," I suggested.

I got out my flashlight and we used its bulb to test the little dry cell. The bulb burned brightly.

"I don't understand it," Charlie said.

Then I suggested, "Let's start from the beginning, Charlie. It *did* work. It got us stuff for drinks. It mixed one pair of drinks. It— Say—"

"I was just thinking of that," Charlie said. "When you said, 'Blow me down' and bent over to pick up the drink, what happened?"

"A current of air. It blew me down, Charlie, literally. How *could* I have done that myself? And notice the difference in pronouns. I said 'Blow me down' then but later I said 'Shoot yourself.' If I'd said 'Shoot me,' why maybe—"

There was that prickle down my spine again.

Charlie looked dazed. He said, "But I worked it out on scientific principles, Hank. It wasn't just an accident. I couldn't be wrong. You mean you think that— It's utterly silly!"

I'd been thinking just that, again. But differently. "Look," I said, "let's concede that your apparatus set up a field that had an effect upon the brain, but just for argument let's assume you misunderstood the nature of the field. Suppose it enabled you to *project a thought*. And you were thinking about Yehudi; you must have been because you jokingly called it the Yehudi principle, and so Yehudi—"

"That's silly," said Charlie.

"Give me a better one."

He went over to the hot plate for another cup of coffee.

And I remembered something then, and went over to the typewriter table. I picked up the story, shuffling the pages as I picked them up so the first page would come out on top, and I started to read.

I heard Charlie's voice say, "Is it a good story, Hank?"

I said, "G-g-g-g-g—"

Charlie took a look at my face and sprinted across the room to read over my shoulder. I handed him the first page. The title on it was "THE YEHUDI PRINCIPLE."

It started out:

I am going crazy.

Charlie Swann is going crazy, too. Maybe more than I am, because it was his dingbat. I mean, he made it and he thought he knew what it was and how it worked—

And as I read page after page, I handed them to Charlie, and he read them too. Yes, it was *this* story. The story you're reading right now, including this part of it that I'm saying right now. Written before the last part of it happened.

Charlie was sitting down when he finished, and so was I.

He looked at me, and I looked at him.

He opened his mouth a few times and closed it again before anything came out. Finally he said, "T-time. Hank, it had something to do with t-time, t-too. It wrote in advance just what— Hank, I'll make it work again. I *got* to. It's something *big*. It's—"

"It's colossal," I said. "But it'll never

work again. Yehudi's dead. He shot himself upon the stair."

"You're crazy," said Charlie.

"Not yet," I told him. I looked down at the manuscript he'd handed back to me, and read:

I am going crazy—

I *am* going crazy.

# CUCKOO

By P. SCHUYLER MILLER

*A slightly overbearing female and a nervous little professor—harmless, if slightly queer folk, the Patrol figured. Just guys watching the birdies sing. But one of those birdies "sang" in an interesting way—*

COMMANDER JEFF NORCROSS of the Triplanetary Space Patrol stared gloomily at his reflection in the surface of a warped chrome mirror and gave his bristling little mustache a few finishing touches. The Venusian climate did things to the silvering of any ordinary glass mirror, and this particular slab of high-reflective alloy had been flung at so many noxious pests of one sort or another that where it was not dimpled it was pitted in lovely waves.

He stepped back and examined the image of his dapper self with some satisfaction. Thank God he had been able to keep the birds and the beetles out of his dress uniform. The last plague of varmints had riddled his regulars and reduced him to a tablecloth skirt until young Hall cooked up an outfit he could wear without turning beet-red in front of tourists.

Spring was in the air, and that meant that summer was on the way. By all the laws of reason and experience the whole planet should be locked up under glass—and here he was trimmed up to the facsimile of a recruiting poster, fated to struggle through a formal dinner in honor of some weevil-brained professor who chose to spend six weeks of hell in the midst of the Preserve. It was enough to make a more impatient man than Norcross cut throats.

Five terrestrial years before, Commander Jeffery Norcross, with fifteen years of ser-

vice and hard work behind him, had muscled himself close to the top of his chosen profession. He was one of the best electronics men in the Patrol. He was at home and in his element anywhere in the System and in a few places out of its bounds, he was space-burned and space-hardened as only a veteran can be, and he was looking forward to using up the other half of a long and fruitful life with the smell of hot metal and the vibration of purring jets seeping into his hide, and the stars spread out lavishly on all sides. When he was old enough, they might push him on up the scale of brass-hattery into a berth where he could wear more stripes and braid, and bumble and roar at the youngsters—but that was a long time in a future which he fully intended should be as eventful as his past.

Then someone, somewhere, pulled strings. God help that someone if Norcross ever found out who he was! Probably the fool had never kicked earth-dust off his shoes, or if he had he'd been space-sick from the minute he blasted off until he got safely back to the old green planet. Jeff Norcross was yanked out of a Patrol cruiser which was just off on a still hunt for space pirates, dunked in the gray goo which passed for the atmosphere of this accursed planet, and honored with the privilege of rotting here at a desk in a zoo, while cubs he had kicked

into shape went out and garnered glory among the satellites. It was pure hell, and he didn't mean to endure it much longer!

The Patrol's part in the management of the great Morgan Wildlife Preserve was a stale joke on three planets and innumerable asteroids. The place had been a creation of the T-P Council, thought up by some brainstorm king as a fitting memorial to the pioneer of Venusian exploration. It took in a dozen or so largish islands which were scattered along the coastline of the west continent at the point where the cloud-splitting Skyscraper Range came down out of the heavens and drowned itself in the stinking sea. When some naturalist discovered that no *kru* had ever set foot on the islands, thanks to the abundant and ferocious population of the surrounding sea, he squalled loudly and in the right circles until the Venus government made the area a national park, then talked them into ceding it to the Council as a Natural Heritage.

The Preserve was run by the Venusian Rangers, civil service boys with natty gray-green uniforms, whose pleasure and duty it was to keep peace among the beasties and the birdies, herd the esteemed Public in and out of the place with facility, courtesy, and deference, and see to it that nobody ran off with the place between times. If the whole Preserve should slip into limbo some Sunday afternoon, that was the Patrol's responsibility, and Norcross could expect hell in red ink until he had found every stone and flower, and had them back where they belonged in time for the next gang of tourists.

It never had disappeared, but he dreamed of it occasionally.

From the other side of the thin partition which maintained his dignity of rank during sleeping hours, Norcross could hear the splash of water and the tenor caterwaul of young Dave Hall, upraised in "The Bim at Bottle Joe's." Hall had been here for two years—the fool *liked* birds—and Jeff Norcross was working on an idea which should blast him to hell and gone out of this muckhole and let the young imbecile sit and glory in his feathered friends until he took root or laid an egg.

Dave Hall's caroling meant that there was a skirt in the breeze. One of the professors was a female. What Hall didn't know was that the creature's title was C. Virginia Banning—Dr. C. Virginia Banning—and Norcross hoped with all his heart that she would

be a she-monster worthy of her name. He grinned with sheer sadism as he thought of Hall's expression when she walked in.

The youngster was buttoning his collar as he strolled out into the common room of the Patrol shack. Old ladies habitually wandered into the place under the misapprehension that it was a necessary convenience, but five or six times beings could cram themselves into it and be gregariously uncomfortable for hours on end if they saw fit. After all, the Patrol was the agent of the Council, and it was court etiquette for Professor W. Ouder Kirk Simms, D.Sc., D.Ec., et al to pay a formal call on his arrival. It was also court etiquette for the Patrol to receive him with all formality and throw a full-scale dinner at which the Rangers would also be duly admitted and recognized, and everybody would be thoroughly uncomfortable for several hours.

Hall, as junior officer at the post, could wear his whites. Jeff Norcross had buttoned and zippered himself into a trim black-and-silver outfit designed to keep an active man warm in a half-insulated tender somewhere west of the Moon. That was etiquette too—of if you preferred, regulations. Norcross looked at the thermometer dial. The temperature in the little box of a room was pushing a hundred and twenty, which was its normal level whenever the refrigerating unit in the conditioner was indisposed, and the humidity was in the eighties. If the coolers ever did cut in suddenly, he reflected, they'd probably have a little cloud-burst right in the middle of the floor. He suspected that borers had eaten holes in the plumbing and were getting plastered on refrigerant: it was their happy way of life. He had made a number of recommendations on the subject in his first year or two, but he was too old a hand to expect that anyone had read them. Norcross had been greaseballed into a fat sitdown job at the request of some politician. Then why, in all decency, couldn't he draw his pay, write his reports, and keep quiet?

The Patrol had one reasonably important function in this infernal hothouse. It was in command of communications. Any message to any point on Venus or off it had to pass through Patrol hands and go out over the Patrol communications system. Norcross was rather fond of that system. It had been his only solace in the five years of his exile. He had tinkered and primped, added this and that, switched circuits and ordered new tubes, until he doubted that any electronics

man anywhere could even guess how the thing worked without a two-day breakdown and a lot of tests. When he wiped the mud of Venus off his boots, that 'cations board was going with him if he had to burn the place down to get it!

Hall was studying the tape. Headquarters was in the habit of sending out newsy little tidbits to its every outpost at frequent intervals, if only to announce the time and weather on Deimos. The lean young Patrolman's blond hair was beginning to come unstuck at the back, and his skin was a flushed young pink. Women drooled over him, but in spite of it all, Norcross had to admit, he was a good kid—skirt-struck but serious and on occasion remarkably and surprisingly capable of taking care of himself.

"Look here, sir." Hall's formal rig seemed to make him a bit more respectful than was common. "They're still battling over the Annex. Some goop's put in a new bill about it."

The Annex was a large and inaccessible portion of the adjoining mainland, which some enthusiast in Laxa proposed to fasten on to the Preserve. It included the highest and least inviting peaks in the Skyscrapers and the dripping rain-forest which shrouded their windward slopes. Granted that the place was probably alive with unknown and unclassified birds, animals, and plants, nobody but a half-amphibian *kru*-man could possibly go there and stay alive, and nobody but a naturalist would ever think of doing it. It meant a few more million acres for the Patrol to worry over, and not a thing more, Norcross reflected. If the Laxa Government quit arguing and voted the thing in, he decided, the Council would probably feel its prestige warranted a three-man post, and they'd send him another subordinate. Hall was plenty!

What he might have answered would probably not have been printable, for he could feel his collar wilting and the crease going out of his knife-edged trousers with the seconds, but a step on the walk outside choked him off. Dave Hall reached the door in one long stride and flung it open with grace and gusto.

Professor W. Ouderkirk Simms led the procession. He would have come to Hall's shoulder if he had cared to stand on tiptoe to try it. The top of his head had been planted with a stiff white herbage of about the length and distribution of the green

variety which one occasionally saw growing from the skulls of plaster Hibernians in florists' windows back on Earth. His face was pink, pear-shaped, and full of little wrinkles, and his eyes were bright and beady. He had a nose as long and as sharp as Norcross' own hawkish beak, and a series of punctured chins draped one behind the other in descending sequence above a neat bow tie. He was wearing the formal professorial garb of the previous century—stiff shirt front, high collar, and flapping tails. He had a row of medals pinned unevenly over the breast pocket of his rather rusty coat.

Behind the little professor loomed a female whom Norcross took to be C. Virginia Banning—and his eyes glittered with wicked satisfaction as he sized her up. She had long red hair, cut raggedly to shoulder length, apparently with a kitchen knife on a bread board. It streamed out in all directions as though each separate filament were highly charged and repelling every other one. Her face was her own, and she was balancing pince-nez precariously on a nose which did nothing whatever to supply them with an adequate foundation. She was broad of shoulder, long of leg, and massive of contour, and she had dressed to display her squareness and massiveness to the greatest if not the best advantage.

Prominently displayed, in the manner of a corsage on the lady's buxom bosom, was a little black box, with a pair of insulated wires disappearing into her mop of hair. Norcross bowed formally and muttered politely, and she simpered back at him. Hall, ever the gentleman, offered her a cigarette and a glass. She answered in the deadly flat tone of the completely deaf.

"Thank yew," she said. "Aye daown't smaoke."

The two Rangers who had followed the professorial pair into the shack made no comments. They didn't have to. Goose-Boy Williams had brought the pair from Laxa in the government launch, and Tom Chase, as chief at the post, had had to install them in the guesthouse and minister to their wants for a full half-day. Both men sat back in evident satisfaction and watched Dave Hall get his.

Dinner was not bad, considering. Hall had somehow bulldozed one of the tame *kru* who were always hanging around the post at this season into learning a few human recipes. The little amphibious na-



tives made good cooks if you could hang onto them, but another two weeks would see them buried in the mud somewhere back in the jungle, sealed up in a chrysalis of shellac, waiting the summer out. Estivation was their way of lasting through the hot months, when the Venusian forests grew gaudier and dryer, the air reeked of strange perfumes, and the nights were made hideous by the whoopings of howlings of bird and beast, preying energetically on each other, reproducing lustily and hurriedly, and boasting of their success.

Williams brought the Tuttle Bill into the conversation halfway through the dessert. In spite of the fact that their official orders came in on the Patrol line, in a code which any schoolboy could read upside down and backward, the Rangers maintained an elaborate fiction of secrecy and the Patrol duly respected the amenities. With his third spoonful of iced *goola* pulp, Williams announced that he had been ordered to make a survey of the proposed addition to the Preserve and submit it as soon as possible to the Legislative committee which was at that moment spending a fat appropriation in judicious investigation, several hundred miles away in Laxa.

The little professor pricked up his ears, and his shoe-button eyes grew brighter. If there was to be an expedition to the mainland, he wanted to join it. The islands were at least partially documented by previous experts, but the hinterland was terra incognita and he wanted in.

Chase, as Chief Ranger, tried to explain that the survey would be limited to an aerial reconnaissance, inasmuch as the place was to all practical purposes impenetrable. The professor was not satisfied.

"I was assured, when I undertook this mission, that I should have the fullest co-operation from the authorities," he said stiffly. "I am here to make a basic study of the ecological relationships governing the fauna and flora of this portion of the Venusian world. The mainland is a part of the environment—an extremely important part, I may say. I feel that I shall be within my rights in reporting this obstructionist attitude to the government at Laxa, and"—he glanced pointedly at Norcross—"if need be to the Triplanet Council."

Chase was growing red behind the ears. He'd been promoted only a few months before, when the former chief had been caught red-handed in some pretty skulduggery, and he didn't like the idea of being

set back by this spike-haired little squirt. On the other hand, he'd be damned if he was going to let two greenhorns commit suicide by wandering into the wilderness west of the Skyscrapers with summer coming on.

"But we aren't going there ourselves," he protested.

C. Virginia had been listening intently, fiddling nervously with her hearing aid and glancing from one speaker to the other. Now she apparently decided that she should state an opinion, if only for the record.

"Aye must say that Aye cannot condone youah attitude," she stated tonelessly. "Aye am suah the Council must be anxious to know all that can possibly be discovahed about this territory befoah any decision is made."

Dave Hall took pity on his colleague. "Look, ma'am," he said brightly. "You don't want to go out into all that muck and rubble when you can get the whole thing without leaving the post. There's a tribe of mountain *kru* here on the island right now, fresh over from the mainland, who can tell you anything you want to know. They'll even fetch you specimens if you want 'em. Why'n't you let me bring the chief to see you in the morning?"

"It appears, then, that there are natives in these supposedly impenetrable forests," the professor observed. "I assume that they have the usual trails and villages. Commander Norcross, I will appreciate your transmitting a message to Laxa for me. Immediately."

Jeff Norcross had been sitting back, enjoying the whole row. In his sour frame of mind, it did him good to see the boy scouts wriggle a little, but Professor W. Ouder Kirk Simms, for all his degrees and medals, was beginning to get on his nerves. The pompous little toad royally deserved a setting back. He tilted his chair back and smiled wolfishly.

"The Range has not been added to the Preserve," he said slowly and precisely. "It is unassigned territory, and as such it is, under interplanetary law, the sole property of whatever natives claim it. The natives are the wards of the Triplanet Council, and all persons are forbidden by law to trespass on their holdings. That goes for the Rangers, and it goes for the whole exalted Venus Government. There's one exception, and we're it. The Space Patrol, as the instrument of the Council, goes where it has to and when it has to—but it goes alone, and

it has to show a good reason. You can send an open message to any place in the System, if you want to, but it'll be blowing credits through your jets. We don't send private messages collect, you know."

The girl's listening device had slipped down inside her dress. She fished it out and turned in her chair so that she faced Norcross squarely. "The Legislatuah is discussing the mattah of the addition in Laxa at this very moment," she protested. "That does not correlate very well with youah statement, commandah."

Hall knew the mood Norcross was in. "Uh, doctor—," he blurted. She turned a wide-eyed stare on him. "I can explain that. According to the rules, the Venus Government has to agree to buy the land from the *kru* and make it a preserve, before the Council can release it from the Native Holdings ban. Then they turn it back to the Council for part of the big Preserve." He gave her his best smile. "There was all kinds of dirty work with the *kru* in the early days, and the Council likes to be extra careful now. Matter of principle, you know."

When the girl smiled she was almost pretty, Norcross thought. A smart cosmetics man could do a lot with her. Trouble with these brainy women was that they didn't take time to learn how to be human. A few more months with this little monkey Simms, and she'd be past saving.

"Let me show you around in the morning, Dr. Banning," he said sweetly. "Patrolman Hall has some very important work to finish. Haven't you, Hall?"

Hall eyed him resentfully. All the time blowing his jets about women, and now singing serenades to this female Einstein. Let him have her! "Oh yes, sir!" he agreed hastily. "I certainly have, sir. Yes indeed!"

The important work, as it happened, consisted of sitting in the communications room with the "Space Officers' Manuel," boning industriously while Norcross did the honors for the lady and the two less fortunate Rangers tried patiently to satisfy the peppy little professor.

C. Virginia Banning next entered Dave Hall's young life late the following afternoon, when he had been emancipated from the radio room and was taking the air in the Preserve. He had located a colony of bee-birds in a stump at the edge of a small clearing a few weeks before, and had managed to install a sheet of clear plastic in one wall of their communal "hive" so that

he could observe their home life without affecting their dispositions. The little bee-sized feathered mites lived in close-packed hexagonal cells ranked around a central shaft, up and down which they could float like helicopters. Their bodies were bright-yellow, with transparent wings that whirled so fast that the winged mites passed with the zing of a high-speed rifle bullet.

Something had set the bee-birds on edge that afternoon, and Hall soon discovered that the something was Dr. Banning. She was up to her knees in a clump of shrubbery at the far side of the clearing, holding something in one hand and swatting at the circling birdlets with the other. They were swarming around her roseate coiffure as though it were a huge sun-blossom.

Hall let out a yelp of warning. Swatting bee-birds was like tickling hornets. The little creatures had touchy tempers. If her hair interested them, she'd better get it out of sight—and fast. He told her so concisely and furnished the bandanna to put over it. When that didn't have much effect, he squeezed the pungent, milky juice out of a handful of *zil* leaves and doused her head-dress until the bee-birds gave up in disgust.

She had dropped whatever it was she had been examining when the bee-birds scented her. Hall's curiosity was aroused, and when she strode manfully away with a formal word of thanks, he let her go. The moment she was out of sight he turned back to the clump of bushes where she had been rummaging. In the soft mold of the forest floor just beyond them he spotted her square footprints and the footprints of a native. They had the long, prehensile toes of the mountain tribes, evolved for clambering over rocks and through the branches of the giant trees of the Venusian rain forest.

Hunching down, Hall peered into the shrubbery. At first he could see nothing, then as he straightened up a spot of bright pink caught his eye. He teased the branches carefully aside, uncovering a neat nest of grass and twigs containing four eggs.

There was nothing unusual about the nest. He'd heard a male whippersnapper's distinctive "zzzipcrack!" around the place before, and knew there must be a nest somewhere close by. Three of the eggs were ordinary whippersnapper eggs, pale-green with darker green blotches, but the fourth was a gaudy sunset pink. It looked like an Easter egg. It was a shade bigger than the other eggs, and had a different shape—blunter and fatter.

The crunch of footsteps on the gravel of the clearing warned him that C. Virginia was back again. The professor was with her.

"Aye should perfuh that yew dew *not* touch the nest," she said sharply. "It is essential that the egg be pairmitted to hatch without interference."

"That's no whippersnapper egg," Dave told her. "I don't know how it got here, but it don't belong in that nest. The *kru* like to pick up bright-colored things and tote them around. Maybe one of them put it here."

"The *kru* called my attention to this nest," she informed him. "Aye have their word that they will not disturb it. Aye must ahsk yew to withdraw!"

"Permit me," Professor Simms moved her gently out of his way and drew himself up to his full height. "Mr. Hall—I have been told that you profess to be a student of ornithology. You are doubtless aware of the habits of *Cuculus canorus* and its co-species?"

"Oh, sure!" Dave Hall had had two years of college Latin before he gave up the idea of becoming cultured and turned to engineering. "Cuckoos. But there's no cuckoos on Venus."

"Ah!" The midget professor's mouse-eyes glittered. "Are you *sure*, Mr. Hall, that there are no cuckoos on Venus? If I may say so, the very fact that we have so remarkable a parallel evolution of life forms on the two planets would lead us to expect just such parasitism as is characteristic of the *Cuculi* and the American *Molothri*, would it not?"

"Maybe," Hall admitted, "but I've been here two years. I know every inch of this island and every bird on it. I've never seen an egg like this, or a bird that would lay it."

"Nobody can claim familiarity with the avifauna of a planet in two years," the professor chided. "It is the nature of the cuckoo to be a wandering and elusive bird."

"A wandering voice," commented C. Virginia smugly.

"As the poet so aptly expresses it, 'a wandering voice'," agreed Professor Simms. "This particular individual may have extended its range from an adjacent island, or even from the very mysterious mainland. We must take every precaution to insure the protection of this evidence of its existence, and trust that the foster parents will hatch and rear it safely."

Dave let the branches slip back over the

nest. "You're the expert, professor," he agreed resignedly. "Maybe I've missed something. I'll keep an eye open, and maybe I can spot this cuckoo if it's still around. Maybe they'd name it after you—*Cuculus Simms-Banningi*."

The professor raised his bristly eyebrows. "You are joking," he stated reprovingly. "You must be aware that the same generic nomenclature cannot be applied to these Venusian creatures as to real birds on Earth. The taxonomy of Venusian avifauna is a primary concern of Dr. Banning's in our present work. You may leave this matter safely in her hands."

If she wanted it, Dave Hall decided, she could have it. But he still didn't believe in cuckoos. He smiled politely and clumped away into the woods. He had some plans of his own where this blooming Easter-egg was concerned.

A week later relations between Patrolman Hall and the visiting experts were not particularly cordial. The female whippersnapper was back on her nest and incubating all four eggs as though they were her own, but Dave had paid a *kru*-man very well to stand guard over the nest and keep anyone—and that included professors—at a safe distance.

Meanwhile he had devoted himself to the search for the elusive cuckoo. He'd never met a real cuckoo—the European, egg-laying kind—back home, but he'd seen plenty of cowbirds, and he'd never met one which was content to lay one egg in one nest. Unless the bird had gotten itself eaten—which wasn't impossible, of course—there should be other pink eggs in other nests not too far away—and there weren't any.

He tried to argue the thing out with Norcross one night, but the commander had troubles of his own. The professor had brought in a lot of electrical equipment, and it was raising hob with the new-fangled installation Norcross had dreamed up for the Patrol station. He'd shielded his circuits as best he could, but he kept picking up a persistent signal on a very short wavelength and he couldn't tie it up with anything he'd seen in the professor's outfit.

Ten days after Dave found the pink egg, the whippersnapper which had been brooding on it died. The *kru*-man who was on guard at the nest brought the bird's body to him apologetically, dead as dingbat, without a mark on her. Hall noticed that

the *kru* had some kind of poultice strapped to his armpit, and scars of old sores all over his body. He tried to question the little native, but the difference between the lowland and highland dialect was too great for him to get very far with it. He caught some kind of comment about "mountain sickness," but it didn't seem to apply to dead birds. He dismissed the *kru* and busied himself with a box and some wires. When the professors got back from a trip through the archipelago, he showed them the abandoned nest, neatly installed in a home-made incubator.

Banning didn't like it much, but the prof really blew his linings. He accused Dave of doing the bird to death, and damned his interfering nature up and down and around several corners. He insisted that the incubator be turned over to him, and when Dave proved stubborn he appealed to Norcross. That got him exactly nowhere. Jeff Norcross didn't like Professor Simms.

Dave pointed out with satisfaction that the insulated box was maintained at exactly the mean temperature shown by a series of thermometers stuck under the wings of roosting female whippersnappers, as shown in print in one of the professor's own treatises. The eggs were turned mechanically at exactly the times when an average whippersnapper would turn them. The humidity of the incubator was precisely that of the spot where the nest was found. He even volunteered to get a recording of forest noises and have them played over and over to the hatching eggs, if the eminent professor thought it would help any. The professor didn't. Finally his colleague had to insist—and rather peevishly, Dave thought—that he come away and give his blood pressure a chance to get back to normal.

Jeff Norcross paid the professors a visit that night, ostensibly to smooth things over but actually for another look at their room full of electrical equipment. He came back muttering into his mustache. As far as he could see, the whole infernal mess had no other purpose than to make ultra-high-fidelity wire records of bird calls and take the prof's dictation.

The time came and the time went when good whippersnapper eggs should have produced good little whippersnappers. They didn't. Norcross rigged up a contact microphone, and they listened in on the eggs. The three normal-looking eggs were dead, but the pink one had a husky foetal heart-beat. Apparently it had a longer incubation period

than the eggs with which it had been laid—and that in itself argued against the cuckoo theory, because in the normal course of events the whole whippersnapper family would have hatched and left the nest before the whosis in the pink egg cracked its shell. Dave said as much to the professor, who immediately accused him of bungling, and a rousing verbal battle ensued which was particularly enjoyed by Norcross, who recorded the whole row for future entertainment when he felt low.

Dave sent the defunct eggs to Laxa for an autopsy, and the boys at the Patrol lab claimed that the things had somehow been doused with gamma rays or their equivalent in high-power radiation. By now the last of the *kru* had holed up for the summer, but Hall was beginning to get a feeling that the sore on the native's arm had been very much like a radium burn. All that, plus the pink egg, should add up to something—and it wouldn't be cuckoos.

Dave had a favorite perch on an exposed pinnacle of rock, about two miles back in the jungle, from which he could look down on the tangled shoreline of the island and on days when the mist had burned off could get a spectacular glimpse of the Sky-scrappers, rising in a black wall from the oily sea. He had been there for an hour, and was no farther along with his puzzle than he had been when he came, when suddenly, far out over the treetops, he saw a spot of moving color. He got his glasses on it, and saw that it was a bird—and a strange one. It was bright red, too big to be a king-teller and too small for one of the crimson darters which occasionally wandered down from the north. It could be a cuckoo.

He was not the only one to spot the red spark against the green. A large grayish bird had been perched on the bare limb of a tree, half a mile or so from Dave's rock. He'd identified it as a zoomer, a small Venusian hawk, and let it go at that. But as the dot of speeding red appeared over the forest, the hawk spread slender wings and dove into space. It swooped low over the treetops, its gray-green plumage blending with the dry foliage, came up like a looping rocket, and snatched the crimson speck out of the sky. Rolling in the air like a stunting strato-pilot, the hawk vanished into the distance with the puff of bright plumage clutched in its talons. Hall followed it with his glasses until it dropped out of sight, took a compass bearing, and slid down off his rock.

It took him until late afternoon to find the zoomer's nest. Although he was reasonably sure the red mystery-bird would long since have disappeared down the gullets of the hawk's rapacious young, he was quite prepared to sacrifice them in the hope of assembling whatever might be left of the crimson creature. For the first time since he had come across the pink egg, he was willing to admit that he might have found the professor's cuckoo.

He hadn't. What the thing was, he showed Jeff Norcross behind drawn blinds late that night. The commander's eyes narrowed as he studied it. He picked it up and reached for a tiny power saw. In a moment the thing's scarlet covering lay in two neat halves on the table, and its gleaming metallic innards were exposed.

"That," said Norcross thoughtfully, "is the strangest piece of machinery that I have ever seen or hoped to see!" He pointed a blunt finger at the maze of delicate wires. "Look at those tubes. They've been designed for this thing. If there's a science of microelectronics, it was cooked up to produce this little gadget. And I thought I knew communications! I thought I had stuff that would boost me out of this stinking hole! I might as well go out and bury myself!"

"What'll it do, chief?" Dave Hall looked as though he'd eaten ten canaries.

"Do? What won't it do? It flies, naturally, since it's built to look like a bird. It sees—picks up a view with this little bit of a scanner, and narrow-casts it back to a pickup somewhere. No, by all the devils, it doesn't cast it! It cans the stuff—light, sound, and all—records it in the form of magnetic impulses on this spider-hair wire, to be taken off later. And this little mess of giblets is the illegitimate offspring of a broadcasting Geigercounter, or I'm a boy scout!" He sat back on his stool and unscrewed his jeweler's lens from his eye. "Where in three stinking planets did you get this little marvel?"

"I'll tell you all about it, chief," Hall promised, "but right now it's got to go back where it came from. Can you get it back together, the way it was? And for holy's sake—is that scanner working all this time?"

"Working? No, it's not working. Would I be blowing my jets like this if the thing could pick me up? It's got to be powered to work, and the power pickup's smashed. But I'll tell you one thing, you young whelp! This is the song-bird that's been whistling

in my earphones for the past two weeks. This is the gadget that's bolluxed up my whole installation. It rebroadcasts the power-waves, all muddled and fuddled up into audio-hash, and I've been getting 'em."

"Sure—that's what I figured." Hall was in a hurry. "Right now I want to know if you can put those fake feathers back on its carcass. And I want to know if you can set up a couple of finders that will give us a bearing on the place those warbles of yours are coming from."

"I know all that!" The commander's neck was getting red. "Think I'm a nincompoop, do you? Think I'm a rookie, do you? I put directionals on the thing the minute it began chirping to me. I know where it does its singing. The mainland—that's where. Right in the middle of the Morgans, where there's not even *kru*. Why, I had Chase run a special survey over the place and the cameras couldn't spot a thing." He glared at the tiny mechanism in his hand. "I didn't think I was looking for a dicky-bird!"

Hall grinned. "Swell! Now—can you put it together again?"

Norcross stared at him wrathily. "Think I'm incompetent, do you? Think I'm doddering on the edge of the grave, do you? Think I'm a bumble-fingered pen-pusher that's lost his space-legs, do you? Well, I'm as good as I ever was—and better. That red stuff's a thermoplastic, so it'll weld. I'll weld you a seam you couldn't find with a microscope. By the time I've touched it up on a wheel, you'd never know the shell was off. That what you're after?"

"Right!" Dave Hall was halfway to the door. "I'll be back in a minute."

The tiny machine was a bird again, so far as appearance went, when Hall returned with a big, ungainly-looking bird struggling under one arm. It subsided when its ultra-sensitive nostrils scented the infinitesimal vapor-pressure of copper in the laboratory. Gulpers were copper-crazy. They lived for the tingle of copper salts in their blood and the scratch of copper crystals in their gizzards. Two or three of the things were always tagging Goose-boy Williams, around, snapping at the brass buttons on his uniform.

Norcross was bent over the mechanical bird, touching up the vanes in its plastic feathers. He went rigid when he saw what Dave had. One gulper turned loose in his communications room could blot the post off the map of space for days to come.

"Get that thing out of here!" he raged.

"Get it out before I break you down to a bilge-swab! I said get out!"

Hall was having his troubles. A gulper is turkey-sized, tastily tinted with purple and magenta, with a powder puff for a body, legs draped in blue feather pantalettes, and a scarlet tail like a rooster's. This one had lost half its tail and was growing a new one. It was cock-eyed, with a curving yellow bill like an oversized curlew's, and it smelled to high heaven of ripe old cheese. It was screaming at the top of a calliope-voice, and slashing at Dave's thighs with claws which were fortunately dulled by many battles.

"Look, chief," he panted. "Bring that gadget here and feed it to this brute."

Norcross goggled. "You mean I dressed this thing up so's you could feed it to a stinking gulper?" he demanded. "You young jet-louse, I'll—"

"Hurry up!" Hall wailed. "Feed it and let me get it out of here. I can't hold it much longer."

The commander held the tiny machine out on one palm, like an apple for a horse. The gulper stopped squawking, cocked its wattled head on one side, and glared suspiciously at the little gadget. Apparently it smelled of copper, for it gave a lightning jab with its scimitar beak and got both the bird and a chunk of Norcross' hand. It spat the latter out, flung back its head, and swallowed the "cuckoo" whole. It gulped, wriggled, burped, and began to yell for more. Hall yanked open a closet door and crammed the whooping horror inside.

"In the morning," he said, "we kill it."

"In one minute," said Norcross, "you talk. Or I kill you."

Dave took in his chief's grim expression with a twinge of alarm. "Look, sir," he pleaded, "I'll tell you the whole thing—only we have a lot to do. Can you use that lay-out of yours to tape the I.P. line and get me Mike Bailey?"

"I.P.? Hall—you know regulations on press stuff!"

"Sure—but can you? I don't want to tell him anything—I want to ask him."

Norcross eyed him suspiciously. The challenge to his pet hookup got the better of his good judgment. "I can get you any line on three planets and more asteroids than you can count!" he retorted, flipping switches and twiddling dials. "You want him walking or talking?"

"It'd better be a two-way visual," Dave decided. "He may not want to give out unless he's sure I'm me. He ought to be

in the Laxa office this time of day," he added helpfully.

"Why'n't you say so?" Norcross snapped. He made a fine adjustment and opened a final circuit. The scanner panel in the middle of the board lit up, and he swung his chair aside. "Sit down and talk," he growled. "And don't monkey with anything."

The Interplanetary Press office in Laxa was usually empty except for the man on duty at this time of night, for the human population of Venus was pretty well concentrated in one time-zone. Mike Bailey was a grizzled veteran of rare old vintage, but his sour face lit up when he saw Hall's grin in his visor.

"Hi, Pup!" he called. "What's nibbling you?"

"Look, Mike," Dave said earnestly, "this is off the record, but you can keep your line to HQ open for when it breaks. What's happening to the Annex?"

Bailey's bushy white eyebrows dipped in a V. "The Annex? What should be happening?"

"Never mind that," Dave pleaded. "You'll get it. Is the Tuttle Bill going through, or is someone trying to kabollix it?"

"Going? It's through!" the newsman told him. "Went through this afternoon. At the very last minute a whole gang of the boys you'd expect to hang the vote until the Sun freezes tossed in with the Administration, and it went through so fast it scorched the ink."

"Uh." Dave Hall sounded as if he'd had the wind kicked out of him. His innocent blue eyes were full of dismay. "Thanks, Mike—," he began, but Bailey interrupted him.

"There's a rider on the bill," he said. "Something about a three-month lapse for investigation before the place is turned over to the Council."

"Oh my gosh!" Dave's voice registered pure dismay. "What about the release?"

"Well—what about it?" Bailey seemed puzzled. "Naturally that's just a formality. Lessee—it's just about daybreak in London now, by my clock. The Council's sitting in Washington this season—and it'll be about the first thing they do. You figure it."

Hall was counting furiously on his fingers. Eight hours at the outside. "Look, Mike!" he begged. "You gotta get something started. Some kind of rumor. Don't say what it is, but get people talking. And

see that it gets to the Council—fast—before they open the session."

Mike Bailey's eyebrows were up around his scalp line. "You think I'm unscrewed?" he demanded. "You think I want the whole Laxa government in what hair I've got—and the Council on top of it? You think I want I.P. kicked off of Venus? Start your own cockeyed rumors!"

"I'll keep you clean," Hall told him. "I can't give you the stuff now, but I'll have it all inside of eight hours—easy. Only we can't wait. We've got to have it on the air and in every morning newstape when the Council gets out of bed. Pick on that delay clause—it's got to be in that. Stir up a stink about it. Intimate that there's been dirty work behind the scenes. Talk about a deal that's going to strip the pants off the poor, defenseless *kru*. Get a quote from the native aid societies—they'll talk if you stir 'em up. We've got to keep the Council from putting a rubber stamp on the release until I can get the worm pried out of the *goola*—and by the time they get around to asking you for answers, I'll have 'em. It's a promise! I'll quit the Patrol if I don't come through."

Jeff Norcross was a man who made up his mind quickly, and for good. He spun the youngster out of the way and stuck his own scowling face in front of the scanner. "Bailey!" he marked. "You know me. You know what I say goes. Get after it!"

He reached for the switch. Bailey's amazed face faded out. Norcross wheeled on the flustered Hall. "You," he said savagely, "were going to tell me the whole story—remember? Tell it! And make it good!"

Dave was pale. He could be wrong—and now the chief was in it. If he slipped up, they'd be mud-bound for the rest of their days. "Gee, chief—" he began. A gong drowned him out.

He forgot what he was going to say. One skittering leap took him across to the incubator. That gong meant that the pink "cuckoo" egg was hatching. It meant that something inside the egg had moved enough to trip a hairspring balance he'd rigged, and sounded the alarm. He yanked open the door of the insulated box.

The chick was wearing half the pink eggshell for a collar. Its head had gone through in one place, and the rest of it somewhere else. It was stark naked except for a little topknot of stiff black feathers like a peacock's crest. Its gangling legs were twice

as long as all the rest of it combined. It opened a beak that nearly sliced the top off its ugly head and let out a soprano hiss. It was like nothing Dave had ever seen.

There was a cuckoo.

Dave reached for the switch which would shut off the gong. His knuckle touched the button which controlled a small light inside the incubator. The light went out—and behind him Norcross gave a startled grunt. The cuckoo glowed.

The creature's naked skin was washed over with pale bluish white light, brighter at the tips of the tiny pimples where pinfeathers would be breaking through, so that it seemed speckled with blue fire. Its spiky crest was yellow-green and its beak pale-salmon. Its legs were black, so that it seemed to hang, swaying, in empty air.

There was a hard sort of grin on Jeff Norcross' thin lips. "Hall," he said, "maybe you've saved your fool neck again. I think I see what you're driving at. But what do we do with that—and when do we visit the professor?"

Outside it was growing light. In the closet, the outraged gulper was emitting muffled whoops like an inebriated Comanche on the warpath.

"I'll take care of the bird end of this business," Dave told him. "Do you suppose you could kind of confuse one of those little flying gadgets?"

The sun was crowding over the treetops, like a spotlight behind endless layers of gray gauze, when the first signs of life showed in the guest house. Professor Simms came to the door, studied the horizon, and disappeared inside. At the windows of the headquarters shack Norcross and Hall watched him patiently. He made two more trips to the door before he decided to climb the hill in person. Dave met him on the terrace outside the shack, the dead gulper swinging by the neck in one hand.

"You're just in time, professor," he said. "This poor goose seems to have et something it shouldn't. We're having us a little autopsy."

Professor Simms looked at him sharply, but followed him into the shack without comment. Norcross was leaning back against the communications board, 'phones on his ears, watching the proceedings with apparent interest. He raised a finger to greet the professor. "Testing," he muttered. "Testing. Testing."

Slapping the carcass of the gulper down on the table, Hall parted the feathers of its



belly and deftly slit open the skin. The bird had a huge crop which he removed and opened. Nested in a tangle of copper wire, brass grommets, and corroded buttons was the crimson "bird."

"Here's your cuckoo, all right, professor," he said. "You suppose it's new, the way you thought?"

The professor's beady eyes studied him. He made no move to pick up the tiny crimson form. "My colleague will be interested in this," he said. "She is the ornithologist. Have I your permission to summon her?"

"Certainly, professor." Norcross took over the conversation from his place at the board.

"Thank you, commander." The professor raised his voice slightly. "Dr. Banning—I think you can be of use here."

He lifted his lapel, revealing a small black disk much like the girl's hearing aid. "A device we have found indispensable in field work," he explained. "It enables a large party to keep in communication while in the field."

"You might tell Dr. Banning that the egg has hatched," Dave suggested.

"I had . . . ah . . . noted the shell, there on the table," Professor Simms told him. "Yes. I am sure Dr. Banning will be anxious to examine the . . . ah . . . chick. Is it . . . ah . . . similar to this specimen?"

Norcross shook his head. "Not at all," he said. "It's puzzled us a little. Maybe this little red one isn't your cuckoo after all." He slipped his hand into the pocket of his tunic.

There were footsteps on the terrace. Hall opened the door to let in Dr. C. Virginia Banning. "Yew wahnated me, Professah Simms?" she inquired nervously.

"The egg has hatched," the little professor announced. "These gentlemen thought you would be interested. And they have discovered—this." He held out the red-feathered mite.

"We discovered something else," Norcross interrupted. "Hall—show them."

Dave Hall wheeled out a massive-looking apparatus, shielded with heavy plates of lead and powdered from leads the size of his thumbs.

"This is a gadget I put together for some experiments with that egg of yours," Norcross observed. "It's a very convenient source of slow neutrons. Professor Simms—will you be so good as to place a fragment of the shell there in the clamp, at the focus of the beam?"

A queer little smile crept over the professor's pink face as he picked up a scrap of the broken shell. Hall stood waiting with his hand on the power switch. The professor stepped carefully around the table and fastened the shell in place. His mouse-eyes were shining oddly, and Norcross was watching him like a cat. He stepped back—

"You fool!" It was the girl. She flew at the machine and wrenched at the clamp which held the egg. The soft shell broke under her fingers and she ground it into the floor with one foot. She spun to confront the professor, her glasses off, her eyes blazing. "Are you trying to kill us all?"

Norcross got slowly to his feet, his hand still in his pocket. "What's going to kill us, Dr. Banning?" he asked silkily. "Not a common cuckoo's egg, surely."

The flat, deaf note had gone out of her voice. She seemed slimmer, lithier, more alive. "Simms," she snapped, "smash that communications board. I'll keep them where they are." There was a tiny pellet gun in her palm. One of its miniature shells could blow a man in two. Norcross fingered the butt of his own gun ruefully. If Hall would get his carcass out of the way—

"I'm sorry," the little man said. "I'm afraid I must." He relieved Hall of his gun, smiled apologetically as he took Norcross', and circled the commander to reach the panel. He surveyed it, then glanced quickly at Norcross. The commander nodded.

"From the beginning," he said.

The little man turned slowly with his back to the board. There was an odd note of tension in his voice. "You will be interested, Dr. Banning," he said, "to know that Commander Norcross has been in communication with Laxa throughout our little drama. Shall we end it?"

In his hand Hall's gun spoke. The slug nicked the girl's right side, close to the elbow; she whirled and yanked at the door as the second buried itself in the wall beside her, shoulder high. It opened and she stepped into the arms of a tall figure in gray-green. Before she could raise her gun, Goose-Boy Williams clipped her neatly on the chin with a man-sized fist. He caught her neatly in his other arm before she could fall, and eased her down into a chair.

"Women oughtn't to play with these things," he complained as he took the pellet gun out of her hand. "They always get hurt worse than the thing they're shooting at."

The professor laid Hall's gun on the



table beside the gory carcass of the martyred gulper. He placed Norcross' weapon beside it. "You will want these," he said. "I shall be glad to . . . ah . . . explain anything you may care to know."

Dave Hall's thumb jerked at the communications panel. "Tell it to them," he grinned. "The chief's got you an all-star hookup—lines to Patrol HQ on the Moon, one to Interplanetary Press in Laxa, and another to our very good friends of the Rangers. Mike—you get it?"

Mike Bailey's husky voice shouted out of the speaker plate. "Clean!" he told them. "On wire and film. If the boys on Luna didn't get it, they're welcome to tap mine. One end of the wire's 'casting to Washington right now—and the film will be in your Laxa headquarters in ten minutes. You got any more?"

Professor W. Ouder Kirk Simms, D.Sc. and D.Ec., stepped in front of the scanner and jerked down his vest. "I have a great deal more," he said precisely. "I shall be glad to be heard."

From the edge of the terrace in front of the Patrol shack, Dave Hall looked down the length of the narrow channel along which the government launch was conveying two eminent savants to a warm reception in Laxa and elsewhere. By half turning he could see three specks of crimson whirling in an eternal circle around the ventilator shaft of the commander's laboratory. Three of the things was more than he'd expected.

Norcross came out of the shack. "Get a ladder," he said. "Get a butterfly net. Get anything you can—and get me those cuckoos before they burn out a tube and crash. I want all three of 'em—whole."

Dave grinned winningly. "Gee, chief," he said, "when you get these gadgets studied out you'll have a hookup that'll be a beater. You figure they'll let you back in active duty?"

Norcross returned the grin. "Patrolman Hall," he said. "Luna knows that if they want to prevent accidents to this very, very delicate apparatus, I am going to have to deliver it to HQ in person. And once I get the mud of this planet off my boots it will take more than the T-P Council to get me back."

"You know," Hall said thoughtfully, "that babe could of been something if she'd only taken the trouble. I thought she had you hooked."

Norcross was growing red behind the ears. "How does it happen that you were so smart, Patrolman Sherlock?" he asked sourly.

"I've never seen a woman yet that didn't have you mooning over her inside of two hours."

Hall tried to look modest. He wasn't very successful. "Well," he said, "her hair was dyed, of course. I don't like fake redheads."

Norcross stared at him. "How did you get that?" he demanded. "I've seen wilder hair than that—and redder."

"It was the bee-birds," Hall explained. "You have to use a kind of herb rinse to get that color, and they smelled it. I had a girl once who used it. She used zil juice after that to keep 'em off. Besides—I knew she wasn't really built that way—like a horse, I mean." He grinned sheepishly. "She hung her laundry up where I could see it."

The commander snorted. "That little professor had me going," he said. "I suppose the little bilge-louse was trying to stir us up all along. That's why he kept blustering like a fool, and she kept trying to tone him down."

"I suppose when that *kru* wakes up in the fall he'll have forgotten the whole business," Hall complained. "They always do—but they home like pigeons. You figure we can spot him from that uranium burn, and trail him back?"

"You can," Norcross told him. "I'll be in space with a ship under me. I'll be where I can smell the stars instead of stale fish and rotten cabbage."

"I'd kind of like that," Dave said wistfully. "Chief—do you suppose—"

"Forget it!" Norcross told him. "One ticket to heaven out of this ruckus is all we're gonna get—and I'm using it. You'll get my job, I imagine. You can sit here and raise canaries. Or maybe it'll be cuckoos."

"O.K., chief—maybe you're right. But look. The way I see it, that pink egg was laid by a whatsit somewhere up in the Sky-scrappers where there's a whopper of a deposit of uranium. There's uranium salts that are pink, and that's what made the egg that color. She spotted that the minute the *kru* showed it to her, and when she saw me snooping around she dropped it in the bird's nest and played cuckoo. Only it was full of uranium, so it killed the old bird when she tried to hatch it, and the other eggs that were near it. I guess it burned that *kru*, too—they carry stuff under their arms."

"All right—so there's uranium up there. They know it now. That takes it out of the Native Holdings class and makes it a Planetary Resource. They'll buy off the *kru*, or

move 'em somewhere, and post a guard over the stuff big enough to fight off an army of crooked politicians. Maybe you'll get to boss it. I'll put in a word for you if you'd rather do your sitting over there."

"You don't get it, chief," Hall objected. "That uranium was *in* the shell. It wasn't just radiations that changed the color. Don't you get it? There's some kind of bird up there that maybe eats uranium the way a gulper gobbles copper—and converts it into shell coloring. And those tests you made showed that the stuff in the shell was nearly pure 235."

"By all that's damned!" The commander's lean chin sagged. "That's what they were after. It was birds."

Dave Hall's chest was pushing the buttons of his tunic to the danger point. "Sure it was birds," he said. "That's why they had to have the professor. He was the bird man—not Banning. He was the one who knew all about *Cuculus* and that stuff. Banning's job was running the 'cuckoos' and keeping an eye on the prof. She's old Tuttle's girl friend. The old *zwilp* got wind of uranium in the Skyscrapers and cooked up this idea of pretending to take it for the Preserve and then at the last minute having a distinguished

scientist like Simms report the lode. With those flying Geiger counters, they probably had every uranium deposit on this side of the 'Scrapers mapped to the last square inch, ten days after they got here. But they wanted those birds—and the prof was supposed to find 'em."

"Patrolman Hall," said Norcross thoughtfully, "you may get to see a couple of stars at that. The man who can produce a flock of chickens that can salt U235 out of a mixture of isotopes has a big future in the poultry business. Where'd you put that squeaking lighthouse?"

"Where I figured Dr. C. Virginia Banning wouldn't look for it," Dave told him. "I don't know whether the prof spotted it or not. He was trying to tip us off from the start, anyway. He was quite a guy when you got to know him."

"All right!" Norcross had had enough of riddles. "Where is the thing?"

"In a bird's nest—right under Banning's window," Dave told him. "It was supposed to be a cuckoo, wasn't it?" He frowned. "They're stuffing it with worms like it was one of their own brood, but—I wonder whether we'd ought to feed it on uranium. It's going to be expensive—"

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## SANDWICH FOR NAZIS

SINCE man became a tool-using animal, the strength of his tools, rather than his own strength, has become of primary importance. Yet it was only in the last century that real engineering investigation of material strengths was undertaken; only in this century that a major attack on the problem of making things stronger was really gotten under way. There had been efforts, naturally. The first production and tempering of steel is lost in the mists of antiquity.

In recent years some most remarkable new paths to strength of materials have been found. Aluminum alloys, magnesium alloys, super-steels and the like have attracted a lot of attention. They hold less promise of new and greater advances than do some rather overlooked items. They are simple developments along the old lines of advance—improved metallic alloys. The different angle of attack on the problem of strength of materials centers about compound materials and sandwich materials.

It's been known for many years that glass fibers of extremely small cross section show very high strengths. The finer the individual fiber, the greater the strength shown on a per square inch basis. Someone did some extrapolation on that item, incidentally, and came up with the amazing determination that a glass fiber of zero cross section would have a tensile strength of 1,000,000 pounds per square inch—

four or five times that of the best steel wire. Perfect mathematical proof that nothing is better than anything.

Actual glass fibers of very small diameter do show strengths of 250,000 to 300,000 pounds per square inch, though. And glass is about as dense as aluminum alloys. Furthermore, those fibers that have the tensile strength of the finest steel piano wire are just about as tough and flexible, but, unlike steel, they will not corrode in salt water, air, acids or in any of the more common chemical agents. Here is a material light as or lighter than aluminum with strength surpassing the best steel—immensely better than ordinary steels. Further, it is made from the commonest elements of the Earth's crust—silicon, oxygen, calcium and sodium. Glass fibers are decidedly not fragile; they'll take a tremendous beating, and return elastically to precisely the original shape and dimensions. They won't burn, they'll stand high temperatures, they're excellent electrical insulators, don't contaminate materials they come in contact with, and can be woven into fabric. Glass fabrics are becoming important insulation materials; they will shortly become increasingly important as tough, long-wearing, fireproof fabrics for general use.

More important, the glass fibers, loosely matted and impregnated with a tough plastic

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# HOUSE OF TOMORROW

By ROBY WENTZ

*It was a very ancient building, and an even more ancient crypt far below it. But there was a boat there—a ship that sailed through time with a cargo of misery, terror and destruction—*

THE one surtitled Helt Heyn Vorberk, Great Prober of the Past, settled the dust-filter over his highbred features and commanded: "Break it down."

The underprobers turned the ray against the heavy wall of old, earth-darkened stone. One stood at the controls and energized them. A gentle, dryish buzzing swelled and rose; presently the stones dripped and ran, puddling in smoking pools at the bottom of the diggings. A section of the wall collapsed; simultaneously, clouds of dust rose in the violated chamber.

The Vorberk stepped into the opening, and the dust settled as it came into contact with his person. Clearing, it revealed an extensive chamber. The quick eyes of the prober took it in—the two contorted skeletons of men on the paved stone floor, lying some distance apart, the opening in some sort of shattered stonework at the far end of the place, appearing to lead into what had once been a corridor or passageway—now blocked with fallen debris.

Then he saw the brownish object among one of the contorted sets of bones. As he bent and gently lifted it from among them, he noted the strange absence of the right forearm bone. The thing was a book of the ancient sort, bound in crackling animal-hide that crumbled in spots at his touch. He handed it to an underprober. "Place it in the preservative. Then I will inspect it in my workrooms."

Outside translucent walls, the night swirled and sparkled with a myriad lights in a hundred hues from horizon to zenith, but the Vorberk gazed thoughtfully at the frail pages of the antique book. Interesting! The handwriting was firm and strong—save at the very close of the record—and here, without question, lay the solution to a minor mystery which occasionally puzzled historians studying that portion of their field called, in the old chronology the "twentieth

century." Then a sudden thought came; he sat straight a moment, then turned back to reread the faded script:

The news today is still worse. They tell us this or that—the enemy will tire, we will negotiate a peace, soon. Fine comfort for we of Munich who have been under constant air blitz for ten days. We know that armies wait across the Rhine, and in the East, only God knows what the terrible Russians may do this spring. No matter how they try to hide it from us, it is the beginning of the end.

At the last moment, whenever it may come, where will our leaders go? They will not stay. They could not stay. They will have some escape, but we, the German people, will have none.

I do not know why they make any effort to maintain school here. The unceasing blitz has made conditions impossible. The boys roam at will. Which reminds me of the extraordinary tale one of my students brought me last night. He is Hans Schmidt. Poor youngster, he has a withered arm, his reason for being in this school for "inferior" youth—those not fit to join the Hitler Youth. He seems a very imaginative lad. His passion is the Middle Ages; he has read everything on it our poor books can offer. Apparently, this old rat's nest to which we were moved after being bombed out of the *Waldenstrasse* last month is made to his order. By his account he has been doing a bit of exploring below-stairs. It seems he had found somewhere "a secret passage, Herr Professor, just as in the books!" Also he babbled something about "a boat," whatever that might mean.

This building is as old as any in Munich, and of course our people have not had time yet in which to examine it. It would date easily from the thirteenth century. It is part of a great block of similar rookeries, and the whole district is known as *der*

*Morgenhaus*, a rather strange name, said to have belonged to an ancient monastery hereabouts. Quite possibly there are some interesting rabbit-runs underneath us, even deeper than the one we use for an air-raid shelter.

I like Schmidt, and I am afraid his explorations may get him into some trouble. The best policy in such cases is to demand to see what there is to see, and thus boil a tall tale down to its grain of fact. And since we cannot leave here, by order of the headmaster, I may ask Schmidt to show me his "secret passage."

*May 21st.* I went with Schmidt last night. The results of the tour certainly were not commonplace. No question, the lad has stumbled upon something. But what? In any event, since this record is for myself alone, and will never be seen by another, I will set down what happened.

The boy was highly pleased at my suggestion he take me to see what he had found. An alarm sounded just as we started and it was no trouble at all to evade notice of our going. Schmidt produced a length of candle; I soon learned how important it was.

He went past the kitchens, down a short flight of stairs into a kind of storage room for supplies, through another door, and down more stairs into an equivalent room just below it. Here a near bomb-hit had blown out a bit of wall, making a heap of rubble in one corner. We climbed over it; and I saw that the blast had, in one of those freak actions, apparently removed with neatness the old stones of a blocked-up door. Through it we went, the boy leading confidently on into still another room, long and narrow, echoing to our steps. I caught glimpses of curious stonework I should like to have examined, but Schmidt was pushing on down the gloomy gallery. At its far end there was a small door of badly-rotted, worm-eaten wood, with a pointed-top, and traces of carving. I was wondering how long these rooms had lain untouched. The fittings were completely medieval, and there was heavy dust underfoot like a cushion. But Schmidt boldly wrenched the door wide on screaming hinges; there lay the head of a flight of spiral stairs, leading steeply down.

I felt cautiously for footholds on the steep flight. I noticed the stones alongside beginning to be dampish. After about three spirals down, we suddenly debouched into a

passage, about ten meters long—a cul-de-sac, without exit. Schmidt, chuckling like a little monkey, plucked at my sleeve and held the candle high. There on the wall, at about shoulder-height, hung a rust-eaten iron ring; standing tiptoe, Schmidt reached for the ring with his good arm, and pulled it. "See, Herr Professor!" His triumphant cry rang weirdly in the vaultlike confines of the passage.

A huge chunk of stone, in which the ring was set, was turning, evidently on delicate balances, with surprisingly little noise, sliding its bulk out into the passage, completely blocking it, but opening a new aperture in the wall from thigh- to shoulder-height!

It was amply large to admit me, and I had no excuse for not following little Schmidt, who was already through it, however little I might like the idea. I had not expected this kind of ramble, at all. If we were lost, we were lost for all time; no one else had come this way in centuries. On that I will stake my life. We were walking in forgotten ways. I hastened after Schmidt, with the sudden thought that nothing must happen to him; without him we might never emerge from this labyrinth of cellars.

The new passage beyond the open stone was very narrow, and sloped slightly downward. I must have followed Schmidt along it for two hundred meters. Suddenly, he disappeared. I cried out in alarm—then realized he had turned a right-angled corner to the left. I followed quickly, and found myself in a great room.

Schmidt's cry "Here it is, Herr Professor!" showed that we had at least reached the end of this subterranean trek. I took the candle from him and held it high; far above, I dimly made out a vaulted ceiling, heavily groined in the manner common to medieval church and monastery architecture. Evidently, this was a crypt of sorts. But of what depth!

I held the candle at arm's length, and peered about. I could see nothing, only the walls fading into darkness on either side. Schmidt had been tugging at my sleeve all this time.

"Look, Herr Professor," he begged, now, "it is there, just as I said."

At first I saw nothing where he pointed in the gloom. Then, moving in the direction, I caught my first sight of it. I made out the lines of the hull first, then forgot them for

the moment as the candle-gleams touched the surfaces and flamed back in mirrored beauty from the brilliant surfaces of the most exquisitely fashioned sculpture or artifact of an inanimate object I have ever seen.

It was a ship, or rather boat, yet modeled with the antique lines of an ancient galley, about the length and size of a modern canoe. What it was made from, I cannot tell; a lifetime as a teacher of physical science gives me no clue to the metal—if it was metal—of the object. It was silvery-smooth, more polished than the aluminium of an airplane wing, yet with an indescribable quality of *depth*—as though one were gazing into water of incredible clarity.

Certainly it had none of the quality of age one would expect of anything found in that forgotten place. It was as new and shining as though turned out of some super-factory the day before.

I began to examine the thing more closely; it was all of a piece. No sign of welding, no such thing as a rivet, marred it.

"Is it not beautiful, Herr Professor?" Schmidt's childish tones echoed startlingly among the roof-recesses, grotesquely out-of-place in *this* place. "What is it doing here?"

I shook my head. The boy's confidence that I, his teacher, had the answer to this wonder, mocked my own awed ignorance—and something more, a tiny thread of fear. What was it doing there? I laid a hand to the craft's bulwark. The metal was cold, satiny-smooth. Then I saw a strange thing.

Like any boat, this one had a rudder—but the rudder was *inside* the craft. In shape it was a rudder, but instead of being *outside*, with its blade extending away from the bow, this one was *inside*, and extended toward the bow. Nor was it a solid instrument, for thrusting aside water. This rudder was a framework, I might say, a grid of wires, looking very much like copper. My eye followed the lines up to a tiller-handle of the same stuff. This, however, was solid. It was a true handle, could be gripped by a hand. But directly under it was another unlikely fixture. This was, simply, a quadrant.

Not only that—it was a calibrated quadrant. By calibrated I mean that, leaning down and holding the candle close, I saw clearly how the copper (?) of the arc had been deeply abraded here and there, as though by a file. The inference of this was plain. The tiller-handle was intended to

move around the arc of the quadrant; their surfaces were close against one another. And this being so, the filed-out "calibrations" would form natural stopping-points. But why? What possible use would this fantastically-equipped craft have, rudder-reversed, and all?

I bent down close to the coppery wires of the rudder, trying to see it more closely. For a moment, my head was completely within the circumference of the craft's bulwarks, and below their level. Suddenly, it seemed that voices were dinning in my ears! There were men's voices, raised and angry, seeming to come from far away, like voices heard in the open on a quiet summer's night. So startled was I that I raised up, thinking someone was coming, and the sounds were gone.

Once more I stuck my head down into the vessel. The sounds were there again; fainter now, and I could hear but one voice; then, suddenly, there came a burst of music. The volume was infinitesimal, but perfect, like an image seen through the small end of a telescope; almost immediately it was drowned out by something that was like an earthquake in an iron foundry; then the voices again—

I straightened up from the interior of the "boat" like one waking from a dream. Then I saw Schmidt's wide eyes, staring at me. The candle-lit gloom, the silence, the tomb-like oppressions of the place, the strange, beautiful ship and its awesome properties evoked sudden panic. The next thing I remember is having seized little Schmidt by the shoulder, hustling him toward what I thought was the entrance to the run by which we had come into this place, only to bring up against a solid wall of masonry! We were in an archway, true; it was an arch with the pointed top, of the usual type, but it was blocked. There was no exit, now. We were walled up in this place.

It was little Schmidt, calmly tugging at my hand, who quietly indicated the other archway far across the chamber; I had, in my panic, run the wrong way! I hurried past the boat without looking at it again. The journey back to the upper world, exhausting as it was, seemed to pass in a blur.

Now I sit here, in this cubicle that is my own, writing of all this, and I have only just remembered one other thing; when in my frightened haste I brought up hard against the barrier in the false archway, I made mental note of something that has

only now come to the top of my consciousness.

That masonry wall blocking the other entrance (?) into the chamber of the ship was modern. It was of brick, of excellent workmanship; I remember well feeling the sharp, smooth edges of new bricks. It must have been put there in quite recent times.

*May 24th.* Three more days of this blitz. Apparently, there are other parts of the town on which they are working first; they have not reached us yet. Bit by bit, they are destroying the city, and we know that other cities are now taking the same punishment. We have given up all pretense of trying to keep school. Some of us still live on here; we have no place else to go.

I have had plenty of time to ponder the thing I wrote into this book three days ago, therefore. I find it taking on a dream-like quality. That is nonsense, for I am not weak-minded enough to try to convince myself that it was all a "vision" or a "hallucination." I am a man of science, and I know that what I saw, I saw. I felt, and I heard. Down beneath us there is a thing which defies explanation.

So, I have had a decision to make. There are two courses open (a) I can do nothing about it or (b) I can do something about it. I find I am not the do-nothing type. To begin, I have been able to learn a little about this building and the surrounding area. I was right about it being known as *der Morgenhaus*, though no one knows why. It does date from the thirteenth century—perhaps earlier.

This brings up the question of the second entrance to the crypt. The masonry, as I have written, was *modern*. The men who made that underground chamber did not erect those bricks in the barrier under the pointed archway. *Who did?*

This takes us a step further. Whoever laid the courses of that brick knew about the metal ship, knew of its presence in the chamber.

Did they know anything else about it?

Again, why was the entrance walled up, and why was the other archway walled? It has occurred to me that "they," whoever they were, did not possess the secret of the turning stone. Could it be that the stone is turned only from the side of the iron ring in the wall? If so, had they explored that long passage, they would have encountered simply a blank, solid wall at its end.

I have already questioned Schmidt. To him, the whole affair is living romance. He has bombarded me with questions; I have asked him a few; the whole business of how he happened to get into the maze of passageways and finally down into the ship's chamber is apparently the story of a tireless boy's tireless curiosity. It was curiosity led him to pull on the iron ring.

But it is the "ship" that is the greatest mystery, after all. The voices—but I refuse to think about that. That I cannot explain; that, perhaps, was a trick of my bomb-blasted eardrums. It is the odd tiller-and-rudder arrangement, the quadrant and the "calibration" marks on it; those did not get there by themselves; they were put there, intentionally; they *mean something*. And by the same token, the "ship" means something. There is some purpose—*was* some purpose in its creation, by whom or by what, God knows.

And what purpose?

I am going down into the crypt again. I am going to move that tiller around the arc of its quadrant. Someone else did it; those markings, deeply cut as they are, prove that. It may be that something in the process will give me a further clue to the nature of things.

Another alarm is sounding, the third today. The thuds of the explosions seem to be moving gradually closer to us here. Can it be that they are destroying a city slowly, systematically, section by section?

I must find Schmidt, and tell him I am going down again. I will need him to guide me.

I hope that when we return aboveground, this room will still be here whole, and this book will still remain to be written in.

*May 26th.* Two days have passed since last I set an entry here. As I write now, I think how strange, that these dull, flat pages of plain, blue-ruled paper should be the sole bearers, save myself, of the secret which would set afire every capital on earth, every foreign office, every war department.

The plans are now in motion. For the present, there is nothing to do but wait. But one day, and soon, there will be the tale to tell, and then these dumb pages will speak out and tell how a little lad with a crippled arm ended the most brutal and cruel war of all time and brought about the downfall of its creators.

Two nights ago, Schmidt and I traversed

again the deepening ways of the path to the chamber of the ship, crawled into the aperture when the stone swung wide to admit us, and stood once more in the crypt.

All was exactly as we had left it three nights earlier, even to our footprints in the dust of the stone floor. The shining artifact stood there, beautiful and enigmatic as before. The candlelight swam in the depths of its mirrored surfaces.

It was determined first to observe the movements of the tiller-handle around the quadrant; I had certain other tests in mind, also, but the desire in me to feel that handle slide over the smooth metal of the arc, to feel the touches of the cut-out markings as it passed each one of them, was almost like a hunger in me. I cannot explain such an urge. I moved to the side of the craft, whose bulwarks reached halfway up my thigh, and stood looking down at the curious arrangement of "rudder" and tiller.

I had forgotten Schmidt for the moment. He was flitting about, probably under the most intense excitement, although I took no notice of him. I was about to place myself at the stern of the vessel, where I could manipulate the tiller, when, with a cry which sounded something like "Steer the ship!" the boy sprang right into the thing, seized the tiller himself, and swung it across the quadrant.

I saw that the gridlike rudder swung with the handle's movement. Suddenly, it was as though a great company of people were concealed inside the shallow sides of that gleaming hull. A sound welled up as of all the inhabitants of the earth adding their voices to a huge cacophony of humanity. That is precisely what I recall thinking, but it came to me only later.

I remember Schmidt's suddenly terrified cry of "Herr Professor, I am afraid, afraid—" as the great sound swelled around him.

Then he was gone, and the sound of voices with him.

The mirrored ship had vanished, taking him with it.

There had been a little puff of air, as when a door is opened into a room; the candle flared a bit, and that was all. The entire thing must not have lasted ten seconds.

Of course, I shouted, but without effect. I got the wild notion that Schmidt and the ship had become invisible by some agency, and rushed through the place where they

had been, meeting nothing but empty air. I recall cursing myself for a witless fool, then assuring myself that the lad must be somewhere in the chamber, and beginning a frantic search through the shadows of the great room, candle in hand.

As I ran my hand futilely along a wall, I heard the voice for the first time.

It was a calm, rather harsh voice, speaking in German, I thought, yet not German either. I must have spun like a top at the sound.

There stood the ship, precisely where it had stood only moments before, but of Schmidt, no sign. Instead, standing upright within the vessel was the dark figure of a man, his face, it seemed, turned toward me in the gloom.

I gasped. I tried to speak, to frame a question, some word about Schmidt, but the sounds that came out of my mouth were mere mumbles of terror. And then the figure stepped over the side of the vessel onto the floor and came toward me while I backed away across the room, repeating his query—such it was, by his tone—in the same harsh, self-assured accents. Amid my fright, my mind sought automatically for the secret of his strangely familiar tongue, which was like, yet unlike, German—then I knew, still backing away.

German it was, incredibly antique German, the speech of centuries ago!

My shoulder blades brought up hard against the wall, and simultaneously the man from the ship stood before me. He was a being of powerful build, dressed in a belted gown of some dark stuff, thick-necked, with a rough, red face. His hair tumbled on his shoulders, and he wore a short, dark beard. Tremblingly, searching for the archaic words. I framed a sentence to him.

"Where . . . is . . . the boy?"

The man—plainly, he was a living man—gestured as though brushing something away. "Have no fear. He is safe."

This time I understood his barbaric German fairly well. In the same firm, rough tones he went on: "He is well. I seek the three who stole the ship." He paused, gazing fixedly at me. "What know *you* of them?" I sensed a sudden menace in the words. But my confidence had returned a little; somehow this thing, or man, knew about Schmidt. I faced up to him.

"I demand to know what has happened to the boy."



He countered me sternly. "What do you do in the Chamber of the Guild?"

"I know nothing of any guild. Where is the boy?"

He looked at me again a long instant. "He is in this room."

I started, then gazed eagerly about. "Here, now—?"

Something like a rough chuckle issued from the grim face. "Now now. In the past. Your past."

This made no sense. "What do these words mean," I said. "How can someone be present in the past?"

His dark features scowled. "Those of the Gammadion ask questions. They do not answer them. I am the Second of the Guild. Better you should give me aid in finding those I seek."

"I tried another gambit. Whatever else he was, this man was human, with human reactions. "You seek someone, then?"

"I seek the renegade three, and now that we have the ship again, they shall not escape us. The marks on the arc tell true; this be one of their ports of entry."

"I will help you." I was bolder, now. "But first—if I do, will my friend come back?"

He looked down his big nose at me. "The Guild bargains with no man, in any age. Yet—there are things even we know not of. What place is this?"

"Does my friend return?" Instinctively, I knew his promise would be a true promise.

He stared at me. "Aye," he said, finally. "If we find the three. Again, what place is this?"

"Munich."

"Still Munich, even yet! And the year—that of Our Lord one thousand nine hundred and—what?"

I told him, and he pursed his bearded lips, muttering to himself. Suddenly he chuckled again, thrust out a rough, red paw and seized my own right hand. His own hand was warm and powerful.

"Feel, oh man of my future, the hand of a man of your past." Again his harsh chuckle. "More than seven centuries lie betwixt flesh and flesh of us, and we span them with a handclasp." Then, at the look on my face, he laughed like a pleased child who has astonished an elder, but when I said nothing—I could not—he misinterpreted it. He dropped my hand. "You do not believe," he said, harshly.

He was right at that moment. I did not.

I had heard of time-machines, or read of them. Who would believe in them? And yet—I thought of Schmidt. Where was Schmidt? In this very chamber, the man who called himself the Second of the Guild, had said. In this same room, but in another time. I had heard theories—the idea that everything that ever happened is always happening—

I spoke to the man. "I am not so ignorant of the past as you think." I paused, to let the statement sink in. "On this same spot, or near by, in the year forty-nine, the forces of Germanicus Caesar fought a great battle with the Suevi. If you possess this power as you claim"—I caught my breath and went on—"doubtless you could visit that battle, bring a token of it here?"

His eyes and nostrils seemed to dilate. With anger? I could not tell. I went on: "If the boy is here in this room, as you say, then by the same token, the battle with the Suevian hordes is likewise in this room."

He gave me a strange look. "Very well, man of the future," he said. A stride or two, and he stood in the ship again, facing me. Bending, he touched the tiller, moved it on the quadrant. This time, it was quicker; hardly had the same eerie, confined spate of sound swelled up within the vessel, like voices in a room heard by one on the outside, than there was a small puff of air, and I blinked. Man and ship had vanished, utterly.

I waited; the minutes dropped away. Had I asked wisely? Now I was alone again. Suppose the ship did not return? Then my one tie to poor little Schmidt would be gone. Was that the meaning of the strange look he had given me?

There was another minute gust of air, and man and ship stood there again before my eyes. The dark-robed figure stepped from the vessel and approached me.

"Do you believe now, man of the future?" Suddenly he brought his right hand up, almost in my face, and held before my eyes a short, ugly, two-edged sword, the blade tapering to a squat point. Half its length was redness—wet and shining, and as I looked, a crimson drop fell from the point to the floor.

"The blood of a Suevian warrior." His voice was calm. "They fought bravely, then—and fiercely." He threw the sword from him and it rang against the stones of the floor. It was the short-sword of a Roman legionary, the famed weapon that won half



a world for the Caesars. "So. You believe, and now you will aid us. Listen now. There are things you must know."

One day, perhaps, my hand will write the story of the Guild of the Gammadion. When I do, those who would scoff will believe; they will believe because what is to happen soon will demolish their capacity for doubt; when that happens, no one in the world will be able to consider anything past belief, however strange.

That incredible brotherhood of genius flourished amid the darkness of medieval Germany; some of their minor secrets were filched by an English monk the world calls Roger Bacon; a few of their writings fell, centuries later, into the hands of one Leonardo da Vinci, who understood them faintly. To the good burghers of Munich, they seemed merely another congregation of pious monks, housed in the very building where I sit, writing. Its name, *Morgenhaus*, had for them that second meaning of the word which is "tomorrow." House of Tomorrow it was in truth. It was likewise a house of tragedy.

Austere and lofty-minded as was its leadership, they of the Gammadion had among them misfits—and worse.

The Golden Age for mankind could have dawned here in Bavaria, seven hundred years ago. He told me how plans were complete for the dispatching of emissaries to every court of Europe. His order had made itself the masters of nature; now, nature's treasure house was to be thrown wide, that man might find a new life. And then, as it seems fated always to be for suffering mankind, something happened—

There were three, he said, novices of the order, their dark desires as yet unsuspected, yet given dangerous scope by even such fragmentary knowledge as they had of the Guildsmen's secrets. There was one, something which sounded, as he told me of it, like a heat or disintegration ray. Plotting with a neighboring lord, the three bargained with it, surrendered it to him. To him it was a diabolic means for blasting an enemy's stronghold, burning, maiming, killing. To the three, it was a way to get from him the living bodies they needed, in the persons of certain of his miserable serfs.

Later, too late, the Guildsmen learned how the three had nourished perverse ambitions, dared aspire to unnatural arts and skills, the powers of *koerperveranderen*,

men able to alter a living body to the semblance of another.

His face contorted in the recital. "Bitterly we accused ourselves; nature had we studied, and neglected to study man himself. Now it was all too plain; man was unfit to use the fearful powers our gifts would confer. Instead of gifts, they would be as the blackest curse!"

He paused a moment. "So it was decided. It had been a bitter, a timely revelation to us. Man was not ready for us. Our works should be destroyed, our brotherhood disbanded!"

It was then, amid the trouble and soul-searching of these men of science that the three renegades did their crowning evil. They plotted again, this time with a short-sighted few who had disputed the dissolution of the Guild; they escaped from imprisonment, and made their way to the deepest chamber, where lay the order's supreme creation, untouched and untried.

"They knew this much, that the genius of the Ship was in its Tiller. The Ship is that most perfect of things, an equation—expressed in tangible shape and substance as a Ship, the most perfect and symmetrically beautiful object man can fashion. Yet is it not quite perfect—not quite whole. One of its parts, one of the elements needed to make it the bodily expression of that which shows the relation of the moment to all Time, is lacking. That other element—when the Tiller moves, the Rudder turns, and the Ship sails in search of its missing part!"

He pointed to the archway through which I first entered the crypt. "Through that way, there, they came, we pursuing them, and entered the Ship, laid hands upon the Tiller and so escaped from us—escaped into the far reaches of Time itself."

I thought of the concept his rapid words evoked, the three evil souls shuttling in millennium-long leaps along the great stream of Time, misusing that almost-perfect thing, that living mathematical entity that forever sought to find its own "X" and become whole. I thought of them seeking out "ports" here and there. Thus, of course, the markings on the quadrant! Then the deep tones of the Second of the Guild dropped toward a close. "You found the Ship, here in your own time. Therefore the three—they are now of your time.

The thought had leaped into being in my mind while he was speaking, a mad

surmise, utterly fantastic. Yet what was not fantastic in this whole business? I put the idea in the form of a query, first.

"You call yourself a Guildsman of the . . . the Gammadion?"

He straightened proudly. "Aye."

I stooped, and while he watched, traced a figure in the dust on the floor, holding the candle close so he could see what I did. I had not finished it, when his powerful fingers dug into my shoulder. His voice was harsh. "You know the sacred symbol, emblem of all that is good and pure? How know *you* of it?"

I stood up. "Is that, then, the sign of the Gammadion, and the sign of your order?"

"Aye."

"In this age," I told him, "it is no symbol of goodness; it is a thing accursed. It is the symbol of the men you seek. It is called the Swastika."

Of the first two, the Guildsman was not sure. But when I spoke of the crippled dwarf, his eyes blazed. "The mad one with hair on his lip, the fat one with the medals—of them I would not say 'yes.' The outward semblance they know how to change. Almost certainly they have taken forms of living men of your time. But one thing they could not do—heal or change that which was crippled or monstrous. And one of them, one of the three, was crippled so!"

I am ready to believe that they could assume the form and facial features of other living men. Why should I not believe it, when what I have seen so far surpasses it in wonder? But they cannot change the spirit. And for this I have, too, the word of the Guildsman. On this knowledge of the psychology of our quarry we have laid our plan.

The knowledge that their secret is known, that the Ship may be in danger of discovery, is the thing which will bring any one of them here, to this place, to the chamber itself. It is their perfect, secure avenue of escape, if all else is lost. Danger to it cannot be tolerated.

And if one comes, all will come. They know themselves, and so they know each other. Neither will trust either of the others anywhere near the place alone.

A secret police has its uses. I have written them letters. They are the kind of letters one does not write if he wishes to go on

living in the Third Reich. They will turn immediate suspicion on me and on this whole section of Munich. Nor is there any question that any and all suspicious references to this part of Munich will go directly to all of them. Small wonder that this is the cradle of this regime.

I am giving them forty-eight hours. A certain time will elapse while the wheels of the police system turn, but when word reaches the top—then action will be swift.

I am now well content for Schmidt to remain where he is, seven centuries away from what is to come. For the aftermath will be frightful.

Now I am going down into the cellars and for the last time. The Gestapo has many ways of knowing things. If they come here they will not find me, for I have made my bargain with the Guild, too. When the fall comes, I will be with Schmidt. When it is safe, we can both return.

*May 27th or 28th*, it matters little which—

When this little candle-end is gone there will be no more light for writing. Nor is there much to write.

Yet I am sure any newspaper in the world would be willing to pay me the most fantastic price I cared to ask for it. Even so I must be brief, for it is not easy to write with the left hand. There is no longer any hand to my right arm, and the right shoulder is shattered. The pain is not too bad; more of a numbness.

Someone said once that the best of plans often go wrong. And often they do not go wrong, precisely. They simply turn out a little differently.

I entered the crypt yesterday, or today—I do not know, now; when he eluded me, I fainted; I do not know how long I lay unconscious.

We were quite certain how they would come, through the heavily blocked archway at the far side of the great chamber. And we were ready for them. That is, *he* was ready for them. He showed me the plain, little device he had fetched out of the past. He showed me how it worked, for just one instant, against a section of the stone wall, and I shuddered.

We talked briefly. I reassured him that we had a good twenty-four hours to get through, yet. I had a little food, and a blanket, and I lay down to sleep a little. I was awakened by a touch. The Guildsman bent over me, hissing something in rapid,

barbaric German, something about "sounds on the farther side." Then he was gone, and I was still half-asleep. I suppose he returned to the bricked-up barrier. I will never know, for I never spoke to him again.

The explosion came within seconds of my waking. I was getting to my feet, and the concussion felled me. As I lay, a heavy body was propelled against mine, and fell across me. The Guildsman lay, a dead weight, across my legs. When I struggled up again, he did not move.

A neat, yard-wide opening was blasted in the heavy wall. I saw that it had been of great thickness. Beyond stretched a brilliantly lit corridor. The air was heavy with the dust of the blast, so that the figure coming through the jagged hole now, black against the strong light behind him, was like something seen in a dream. Yet even in silhouette, I knew him. How many times had I not seen him, in newspapers, in motion pictures, even, in the old days before the war came, thrilled like others of the Reich to his living presence among us at the great *parteifesten*.

Now his back was turned. It was quite plain that he had no suspicion of any other presence in the vault with him. I walked quietly toward him, and as I did, shots rang out. He was shooting; and coming nearer, I saw that others in the corridor were shooting, too. There were the other two—the fat one and the crippled dwarf, and all three were shooting, coolly murdering, one by one; the members of a little bunch of black-uniformed men out in the corridor. They were S.S. men. The last one bent double and fell, a horribly ludicrous expression on his face. I thought: "That is the last murder of a murderous regime." But at the same instant I was wildly wondering what I would do. I did not know. I could think of no single action to take.

As always, it was the simplest factor of all which had been omitted from our plans, the possibility that our quarry would move voluntarily, would act to make their escape from a collapsing world even before our messages could take effect!

Another moment, now, and they would be in the room. They would find me there. Then I remembered the Guildsman's weapon. I knew that it had lain close to where I had slept. In a flash I had found it, and moved carefully back toward the little massacre at the barrier.

I was now between the three coming

through the wall, and the Ship. It sat on the stone floor as always, bright and silent—I knew what I would do. My responsibility was to little Schmidt. I had no confidence in my ability to return the three worst villains in human annals to their proper place in time. I felt reasonably certain that I could, alone, project myself to Schmidt and rescue him from life and death among God knows what conditions.

And yet, I had first to deal with these monstrous scoundrels! They were present, in the room. The fat one was now squeezing his immense bulk through the opening. Nonetheless, it was for the back of the Leader that I aimed. I pointed the device in the strange way the Guildsman had done, praying that I did right, and activated it. I aimed for the Leader, but it was the great paunch of the other that was hit. He screamed horribly, clawed at the awful wound as it opened and spread, and slumped among the debris. At his yell, the little dwarf turned furiously, and his small features were a mask of hate. Plainly, he considered that *he* was being fired on. He shot through the opening, but his first hurried bullet struck the fat one; the heavy body jerked at the impact. And then the Leader himself, flattening against the edge of the hole, fired at the dwarf. His aim was excellent. The evil little creature, his mouth wide open, pitched forward into the aperture and lay there.

All this happened within seconds, for before I could activate the weapon again, the Leader was facing me, pistol in hand. He saw me almost instantly. And he saw the thing I held.

Even in that semidarkness, the face betrayed his awareness of what it was. Not for the first time was he seeing this. He knew what it was and what it could do; the fear on the face showed that. For a moment, only; then that familiar, too familiar face opened. From its lips came the voice I, like all other Germans, know as well as my own voice, the voice that, a thousand times over, has told us what was our duty in tones of stern command.

"Would you destroy your Fuehrer?"

It was only for a split second that habit, powerful habit, was in the saddle; but for that fraction of time I was a good citizen of the Reich, hearkening to my Fuehrer's order. Only an instant—but in that instant, his pistol exploded one final time, and my right shoulder exploded, too. I saw him leap

past me as I reeled with the blow of the bullet; the Guildsman's great weapon was somewhere in the darkness. Sobbing with rage and fury—I felt no pain—I turned toward the Ship.

In it stood the figure in uniform. Already, he was stooping to the Tiller; the swastika reaching for mastery over the gammadion. There was a smile on his dark face, the face that once had belonged to a little paper hanger named Hitler.

I flung myself at the shining Ship and its triumphant passenger. I knew that that hand, now on the Tiller, *would not take its owner and the Ship back into the age of the Guild*. I must reach that Tiller and change its setting. Even as I reached the vessel, he swung it around the quadrant. Then my hand was on it; my fingers touched his, sought to grasp and tug; a great sound welled out of the flashing hull.

I felt a sensation in my right forearm as of fiery heat and icy cold at once. The Ship was gone, of course, the Ship and he, and with him a part of me. I have inches left of a right forearm. It is very strange; I feel no pain in it. A part of me is traveling with him into Time, into the future.

It is the future; of that I am certain. For him, return to the past was impossible, unthinkable. I wonder—what age will he select for his next calling-place? What man of that time will furnish him with form and feature anew?

A vast explosion had sounded somewhere above me; they reached us, it would seem. That was many hours ago; now for a long time, there have been no more blasts; the bombing of Munich has stopped. Has it stopped for good and all? Do they know already?

It is little Schmidt who is well off; still in his beloved past, among real knights in armor, sceptered kings, narrow streets, gabled roofs.

The candle is nearly gone. I am growing

weak, now, slowly. Probably I have lost blood—

The Vorberk glanced up at the sound of the door opening; then an underprober stood before him, breathless. "Vorberk!" He bowed hastily, then rushed on, gasping, "A man—the man—the excavation, today, where the book was found! A marvellous object—"

The Vorberk stood erect. "A shining thing of such a shape—so, and so?" He demonstrated with his hands. The prober's jaw dropped.

"Why—yes, master. Yes, it is so. How did you . . . but the man—"

"Yes, the man in the shining thing. What of him?"

"He . . . he is dead." The underprober's eyes fell.

"Dead?"

"Two of us were there, only, Vorberk, Helt Swenlac and I. We heard some sound behind us, we turned, and he was there, standing within the shining thing. We started toward him and the thing in his hand, like a ray, spat, and Helt Swenlac fell! I . . . then I was afraid, and I put my ray on him. He is there, what remains of him. I crave forgiveness, Vorberk. Will you come and see?"

In the excavation, the Vorberk stepped to the side of the shining object like a trough or cradle and stared at the remains of the body in it. Then his eyes sought elsewhere, and found that which they were looking for.

He lifted it carefully, a man's hand and part of the forearm, severed with incredible neatness, but recently. The Vorberk could almost feel warmth in the inert flesh. He shook his head, a half-smile on his lips.

Then he placed the thing where it had lain, and turned eagerly to study the shining object. His hand crept out and touched eagerly, gently, a sort of handle projecting inward from one of its extremities.



# CITY

By CLIFFORD D. SIMAK

*A City is a place where men gather together for mutual protection, and to help each other with the work of living. But there's a point at which the city ceases to serve—*

GRAMP STEVENS sat in a lawn chair, watching the mower at work, feeling the warm, soft sunshine seep into his bones. The mower reached the edge of the lawn, clucked to itself like a contented hen, made a neat turn and trundled down another swath. The bag holding the clippings bulged.

Suddenly the mower stopped and clicked excitedly. A panel in its side snapped open and a crane-like arm reached out. Grasping steel fingers fished around in the grass, came up triumphantly with a stone clutched tightly, dropped the stone into a small container, disappeared back into the panel again. The lawn mower gurgled, purred on again, following its swath.

Gramp grumbled at it with suspicion.

"Some day," he told himself, "that dadburned thing is going to miss a lick and have a nervous breakdown."

He lay back in the chair and stared up at the sun-washed sky. A helicopter skimmed far overhead. From somewhere inside the house a radio came to life and a torturing clash of music poured out. Gramp, hearing it, shivered and hunkered lower in the chair.

Young Charlie was settling down for a twitch session. Dadburn the kid.

The lawn mower chuckled past and Gramp squinted at it maliciously.

"Automatic," he told the sky. "Ever' blasted thing is automatic now. Getting so you just take a machine off in a corner and whisper in its ear and it scurries off to do the job."

His daughter's voice came to him out the window, pitched to carry above the music.

"Father!"

Gramp stirred uneasily. "Yes, Betty."

"Now, father, you see you move when that lawn mower gets to you. Don't try to out-stubborn it. After all, it's only a machine. Last time you just sat there and made it cut around you. I never saw the beat of you."

He didn't answer, letting his head nod a bit, hoping she would think he was asleep and let him be.

"Father," she shrilled, "did you hear me?"

He saw it was no good. "Sure, I heard you," he told her. "I was just fixing to move."

He rose slowly to his feet, leaning heavily on his cane. Might make her feel sorry for the way she treated him when she saw how old and feeble he was getting. He'd have to be careful, though. If she knew he didn't need the cane at all, she'd be finding jobs for him to do and, on the other hand, if he laid it on too thick, she'd be having that fool doctor in to pester him again.

Grumbling, he moved the chair out into that portion of the lawn that had been cut. The mower, rolling past, chortled at him fiendishly.

"Some day," Gramp told it, "I'm going to take a swipe at you and bust a gear or two."

The mower hooted at him and went serenely down the lawn.

From somewhere down the grassy street came a jangling of metal, a stuttered coughing.

Gramp, ready to sit down, straightened up and listened.

The sound came more clearly, the rumbling backfire of a balky engine, the clatter of loose metallic parts.

"An automobile!" yelled Gramp. "An automobile, by cracky!"

He started to gallop for the gate, suddenly remembered that he was feeble and subsided to a rapid hobble.

"Must be that crazy Ole Johnson," he told himself. "He's the only one left that's got a car. Just too dadburned stubborn to give it up."

It was Ole.

Gramp reached the gate in time to see the

rusty, dilapidated old machine come bumping around the corner, rocking and chugging along the unused street. Steam hissed from the overheated radiator and a cloud of blue smoke issued from the exhaust, which had lost its muffler five years or more ago.

Ole sat stolidly behind the wheel, squinting his eyes, trying to duck the roughest places, although that was hard to do, for weeds and grass had overrun the streets and it was hard to see what might be underneath them.

Gramp waved his cane.

"Hi, Ole," he shouted.

Ole pulled up, setting the emergency brake. The car gasped, shuddered, coughed, died with a horrible sigh.

"What you burning?" asked Gramp.

"Little bit of everything," said Ole.

"Kerosene, some old tractor oil I found out in a barrel, some rubbing alcohol."

Gramp regarded the fugitive machine with forthright admiration. "Them was the days," he said. "Had one myself used to be able to get a hundred miles an hour out of."

"Still O.K.," said Ole, "if you only could find the stuff to run them or get the parts to fix them. Up to three, four years ago I used to be able to get enough gasoline, but ain't seen none for a long time now. Quit making it, I guess. No use having gasoline, they tell me, when you have atomic power."

"Sure," said Gramp. "Guess maybe that's right, but you can't smell atomic power. Sweetest thing I know, the smell of burning gasoline. These here helicopters and other gadgets they got took all the romance out of traveling, somehow."

He squinted at the barrels and baskets piled in the back seat.

"Got some vegetables?" he asked.

"Yup," said Ole. "Some sweet corn and early potatoes and a few baskets of tomatoes. Thought maybe I could sell them."

Gramp shook his head. "You won't, Ole. They won't buy them. Folks has got the notion that this new hydroponics stuff is the only garden sass that's fit to eat. Sanitary, they say, and better flavored."

"Wouldn't give a hoot in a tin cup for all they grow in them tanks they got," Ole declared, belligerently. "Don't taste right to me, somehow. Like I tell Martha, food's got to be raised in the soil to have any character."

He reached down to turn over the ignition switch.

"Don't know as it's worth trying to get the stuff to town," he said, "the way they keep the roads. Or the way they don't keep them, rather. Twenty years ago the state highway out there was a strip of good concrete and they kept it patched and plowed it every winter. Did anything, spent any amount of money to keep it open. And now they just forgot about it. The concrete's all broken up and some of it has washed out. Brambles are growing in it. Had to get out and cut away a tree that fell across it one place this morning."

"Ain't it the truth," agreed Gramp.

The car exploded into life, coughing and choking. A cloud of dense blue smoke rolled out from under it. With a jerk it stirred to life and lumbered down the road.

Gramp clumped back to his chair and found it dripping wet. The automatic mower, having finished its cutting job, had rolled out the hose, was sprinkling the lawn.

Muttering venom, Gramp stalked around the corner of the house and sat down on the bench beside the back porch. He didn't like to sit there, but it was the only place he was safe from the hunk of machinery out in the front.

For one thing, the view from the bench was slightly depressing, fronting as it did on street after street of vacant, deserted houses and weed-grown, unkempt yards.

It had one advantage, however. From the bench he could pretend he was slightly deaf and not hear the twitch music the radio was blaring out.

A voice called from the front yard.

"Bill! Bill, where be you?"

Gramp twisted around.

"Here I am, Mark. Back of the house. Hiding from that daburned mower."

Mark Bailey limped around the corner of the house, cigarette threatening to set fire to his bushy whiskers.

"Bit early for the game, ain't you?" asked Gramp.

"Can't play no game today," said Mark.

He hobbled over and sat down beside Gramp on the bench.

"We're leaving," he said.

Gramp whirled on him. "You're leaving!"

"Yeah. Moving out into the country. Lucinda finally talked Herb into it. Never gave him no peace, I guess. Said everyone was moving away to one of them nice country estates and she didn't see no reason why we couldn't."

Gramp gulped. "Where to?"

"Don't rightly know," said Mark. "Ain't been there myself. Up north some place. Up on one of the lakes. Got ten acres of land. Lucinda wanted a hundred, but Herb put down his foot and said ten was enough. After all, one city lot was enough for all these years."

"Betty was pestering Johnny, too," said Gramp, "but he's holding out against her. Says he simply can't do it. Says it wouldn't look right, him the secretary of the Chamber of Commerce and all, if he went moving away from the city."

"Folks are crazy," Mark declared. "Plumb crazy."

"That's a fact," Gramp agreed. "Country crazy, that's what they are. Look across there."

He waved his hand at the streets of vacant houses. "Can remember the time when those places were as pretty a bunch of homes as you ever laid your eyes on. Good neighbors, they were. Women ran across from one back door to another to trade recipes. And the men folks would go out to cut the grass and pretty soon the mowers would all be sitting idle and the men would be ganged up, chewing the fat. Friendly people, Mark. But look at it now."

Mark stirred uneasily. "Got to be getting back, Bill. Just sneaked over to let you know we were lighting out. Lucinda's got me packing. She'd be sore if she knew I'd run out."

Gramp rose stiffly and held out his hand. "I'll be seeing you again? You be over for one last game?"

Mark shook his head. "Afraid not, Bill."

They shook hands awkwardly, abashed. "Sure will miss them games," said Mark.

"Me, too," said Gramp. "I won't have nobody once you're gone."

"So long, Bill," said Mark.

"So long," said Gramp.

He stood and watched his friend hobble around the house, felt the cold claw of loneliness reach out and touch him with icy fingers. A terrible loneliness. The loneliness of age—of age and the outdated. Fiercely, Gramp admitted it. He was outdated. He belonged to another age. He had outstripped his time, lived beyond his years.

Eyes misty, he fumbled for the cane that lay against the bench, slowly made his way toward the sagging gate that opened onto the deserted street back of the house.

The years had moved too fast. Years that

had brought the family plane and helicopter, leaving the auto to rust in some forgotten place, the unused roads to fall into disrepair. Years that had virtually wiped out the tilling of the soil with the rise of hydroponics. Years that had brought cheap land with the disappearance of the farm as an economic unit, had sent city people scurrying out into the country where each man, for less than the price of a city lot, might own broad acres. Years that had revolutionized the construction of homes to a point where families simply walked away from their old homes to the new ones that could be bought, custom-made, for less than half the price of a prewar structure and could be changed at small cost, to accommodate need of additional space or merely a passing whim.

Gramp sniffed. Houses that could be changed each year, just like one would shift around the furniture. What kind of living was that?

He plodded slowly down the dusty path that was all that remained of what a few years before had been a busy residential street. A street of ghosts, Gramp told himself—of furtive, little ghosts that whispered in the night. Ghosts of playing children, ghosts of upset tricycles and canted coaster wagons. Ghosts of gossiping housewives. Ghosts of shouted greetings. Ghosts of flaming fireplaces and chimneys smoking of a winter night.

Little puffs of dust rose around his feet and whitened the cuffs of his trousers.

There was the old Adams place across the way. Adams had been mighty proud of it, he remembered. Gray field stone front and picture windows. Now the stone was green with creeping moss and the broken windows gaped with ghastly leer. Weeds choked the lawn and blotted out the stoop. An elm tree was pushing its branches against the gable. Gramp could remember the day Adams had planted that elm tree.

For a moment he stood there in the grass-grown street, feet in the dust, both hands clutching the curve of his cane, eyes closed.

Through the fog of years he heard the cry of playing children, the barking of Conrad's yapping pooch from down the street. And there was Adams, stripped to the waist, plying the shovel, scooping out the hole, with the elm tree, roots wrapped in burlap, lying on the lawn.

May, 1946. Forty-four years ago. Just after he and Adams had come home from the war together.



Footsteps padded in the dust and Gramp, startled, opened his eyes.

Before him stood a young man. A man of thirty, perhaps. Maybe a bit less.

"Good morning," said Gramp.

"I hope," said the young man, "that I didn't startle you."

"You saw me standing here," asked Gramp, "like a danged fool, with my eyes shut?"

The young man nodded.

"I was remembering," said Gramp.

"You live around here?"

"Just down the street. The last one in this part of the city."

"Perhaps you can help me then."

"Try me," said Gramp.

The young man stammered. "Well, you see, it's like this. I'm on a sort of . . . well, you might call it a sentimental pilgrimage—"

"I understand," said Gramp. "So am I."

"My name is Adams," said the young man. "My grandfather used to live around here somewhere. I wonder—"

"Right over there," said Gramp.

Together they stood and stared at the house.

"It was a nice place once," Gramp told him. "Your granddaddy planted that tree, right after he came home from the war. I was with him when we marched into Berlin. That was a day for you—"

"It's a pity," said young Adams. "A pity—"

But Gramp didn't seem to hear him. "Your granddaddy?" he asked. "I seem to have lost track of him."

"He's dead," said young Adams.

"He was messed up with atomic power," said Gramp.

"That's right," said Adams proudly. "He and my Dad got into it early."

John J. Webster was striding up the broad stone steps of the city hall when the walking scarecrow carrying a rifle under his arm caught up with him and stopped him.

"Howdy, Mr. Webster," said the scarecrow.

Webster stared, then recognition crinkled his face.

"It's Levi," he said. "How are things going, Levi?"

Levi Lewis grinned with snagged teeth. "Fair to middling. Gardens are coming along and the young rabbits are getting to be good eating."

"You aren't getting mixed up in any of

the hell raising that's being laid to the houses?" asked Webster.

"No, sir," declared Levi. "Ain't none of us Squatters mixed up in any wrongdoing. We're law-abiding, God-fearing people, we are. Only reason we're there is we can't make a living no place else. And us living in them places other people up and left ain't harming no one. Police are just blaming us for the thievery and other things that's going on, knowing we can't protect ourselves. They're making us the goats."

"I'm glad to hear that," said Webster. "The chief wants to burn the houses."

"If he tries that," said Levi, "he'll run against something he ain't counting on. They run us off our farms with this tank farming of theirs but they ain't going to run us any farther."

He spat across the steps.

"Wouldn't happen you might have some jingling money on you?" he asked. "I'm fresh out of cartridges and with them rabbits coming up—"

Webster thrust his fingers into a vest pocket, pulled out a half dollar.

Levi grinned. "That's obliging of you, Mr. Webster. I'll bring a mess of squirrels, come fall."

The Squatter touched his hat with two fingers and retreated down the steps, sun glinting on the rifle barrel. Webster turned up the steps again.

The city council session already was in full swing when he walked into the chamber.

Police Chief Jim Maxwell was standing by the table and Mayor Paul Carter was talking.

"Don't you think you may be acting a bit hastily, Jim, in urging such a course of action with the houses?"

"No, I don't," declared the chief. "Except for a couple of dozen or so, none of those houses are occupied by their rightful owners, or rather, their original owners. Every one of them belongs to the city now through tax forfeiture. And they are nothing but an eyesore and a menace. They have no value. Not even salvage value. Wood? We don't use wood any more. Plastics are better. Stone? We use steel instead of stone. Not a single one of those houses have any material of marketable value."

"And in the meantime they are becoming the haunts of petty criminals and undesirable elements. Grown up with vegetation as the residential sections are, they make a

perfect hideout for all types of criminals. A man commits a crime and heads straight for the *houses*—once there he's safe, for I could send a thousand men in there and he could elude them all.

"They aren't worth the expense of tearing down. And yet they are, if not a menace, at least a nuisance. We should get rid of them and fire is the cheapest, quickest way. We'd use all precautions."

"What about the legal angle?" asked the mayor.

"I checked into that. A man has a right to destroy his own property in any way he may see fit so long as it endangers no one else's. The same law, I suppose, would apply to a municipality."

Alderman Thomas Griffin sprang to his feet.

"You'd alienate a lot of people," he declared. "You'd be burning down a lot of old homesteads. People still have some sentimental attachments—"

"If they cared for them," snapped the chief, "why didn't they pay the taxes and take care of them? Why did they go running off to the country, just leaving the houses standing. Ask Webster here. He can tell you what success he had trying to interest the people in their ancestral homes."

"You're talking about that Old Home Week farce," yelled Griffin. "Webster spread it on so thick they gagged on it. That's what a Chamber of Commerce mentality always does. People resent having the things they set some store by being used as bait to bring more business into town."

Alderman Forrest King leaped up and pounded on the table, his double chin quaking with rage.

"I'm sick and tired of you taking a crack at the Chamber every chance you get," he yelled. "When you do that you're taking a slap at every business in this city. And the business houses are all this city has left. They're the only ones paying taxes anymore."

Griffin grinned sourly. "Mr. King, I can appreciate your position as president of the Chamber."

"You went broke yourself," snarled King. "That's the reason you act the way you do. You lost your shirt at business and now you're sore at business—"

"King, you're crude," said Griffin.

A silence fell upon the room, cold, embarrassed silence.

Griffin broke it. "I am taking no slap at business. I am protesting the persistence of business in sticking to outmoded ideas and methods. The day of go-getting is over, gentlemen. The day of high pressure is gone forever. Ballyhoo is something that is dead and buried."

"The day when you could have tall-corn days or dollar days or dream up some fake celebration and deck the place up with bunting and pull in big crowds that were ready to spend money is past these many years. Only you fellows don't seem to know it."

"The success of such stunts as that was its appeal to mob psychology and civic loyalty. You can't have civic loyalty with a city dying on its feet. You can't appeal to mob psychology when there is no mob—when every man, or nearly every man has the solitude of forty acres."

"Gentlemen," pleaded the mayor. "Gentlemen, this is distinctly out of order."

King sputtered into life, walloped the table once again.

"No, let's have it out. Webster is over there. Perhaps he can tell us what he thinks."

Webster stirred uncomfortably. "I scarcely believe," he said, "I have anything to say."

"Forget it," snapped Griffin and sat down.

But King still stood, his face crimson, his mouth trembling with anger.

"Webster!" he shouted.

Webster shook his head. "You came here with one of your big ideas," shouted King. "You were going to lay it before the council. Step up, man, and speak your piece."

Webster rose slowly, grim-lipped.

"Perhaps you're too thick-skulled," he told King, "to know why I resent the way you have behaved."

King gasped, then exploded. "Thick-skulled! You would say that to me. We've worked together and I've helped you. You've never called me that before . . . you've—"

"I've never called you that before," said Webster, levelly. "Naturally not. I wanted to keep my job."

"Well, you haven't got a job," roared King. "From this minute on, you haven't got a job."

"Shut up," said Webster.

King stared at him, bewildered, as if someone had slapped him across the face.

"And sit down," said Webster, and his

voice bit through the room like a sharp-edged knife.

King's knees caved beneath him and he sat down abruptly. The silence was brittle.

"I have something to say," said Webster. "Something that should have been said long ago. Something all of you should hear. That I should be the one who would tell it to you is the one thing that astounds me. And yet, perhaps, as one who has worked in the interests of this city for almost fifteen years, I am the logical one to speak the truth.

"Alderman Griffin said the city is dying on its feet and his statement is correct. There is but one fault I would find with it and that is its understatement. The city . . . this city, any city . . . already is dead.

"The city is an anachronism. It has outlived its usefulness. Hydroponics and the helicopter spelled its downfall. In the first instance the city was a tribal place, an area where the tribe banded together for mutual protection. In later years a wall was thrown around it for additional protection. Then the wall finally disappeared but the city lived on because of the conveniences which it offered trade and commerce. It continued into modern times because people were compelled to live close to their jobs and the jobs were in the city.

"But today that is no longer true. With the family plane, one hundred miles today is a shorter distance than five miles back in 1930. Men can fly several hundred miles to work and fly home when the day is done. There is no longer any need for them to live cooped up a city.

"The automobile started the trend and the family plane finished it. Even in the first part of the century the trend was noticeable—a movement away from the city with its taxes and its stuffiness, a move toward the suburb and close-in acreages. Lack of adequate transportation, lack of finances held many to the city. But now, with tank farming destroying the value of land, a man can buy a huge acreage in the country for less than he could a city lot forty years ago. With planes powered by atomics there is no longer any transportation problem."

He paused and the silence held. The mayor wore a shocked look. King's lips moved, but no words came. Griffin was smiling.

"So what have we?" asked Webster. "I'll tell you what we have. Street after street, block after block, of deserted houses, houses

that the people just up and walked away from. Why should they have stayed? What could the city offer them? None of the things that it offered the generations before them, for progress had wiped out the need of the city's benefits. They lost something, some monetary consideration, of course, when they left the houses. But the fact that they could buy a house twice as good for half as much, the fact that they could live as they wished to live, that they could develop what amounts to family estates after the best tradition set them by the wealthy of a generation ago—all these things outweighed the leaving of their homes.

"And what have we left? A few blocks of business houses. A few acres of industrial plants. A city government geared to take care of a million people without the million people. A budget that has run the taxes so high that eventually even business houses will move to escape those taxes. Tax forfeitures that have left us loaded with worthless property. That's what we have left.

"If you think any Chamber of Commerce, any ballyhoo, any harebrained scheme will give you the answers, you're crazy. There is only one answer and that is simple. The city as a human institution is dead. It may struggle on a few more years, but that is all."

"Mr. Webster—" said the mayor.

But Webster paid him no attention.

"But for what happened today," he said, "I would have stayed on and played doll house with you. I would have gone on pretending that the city was a going concern. Would have gone on kidding myself and you. But there is, gentlemen, such a thing as human dignity."

The icy silence broke down in the rustling of papers, the muffled cough of some embarrassed listener.

John J. Webster turned on his heel and left the room.

Outside on the broad stone steps, he stopped and stared up at the cloudless sky, saw the pigeons wheeling above the turrets and spires of the city hall.

He shook himself mentally, like a dog coming out of a pool.

He had been a fool, of course. Now he'd have to hunt for a job and it might take time to find one. He was getting a bit old to be hunting for a job.

But despite his thoughts, a little tune rose unbidden to his lips. He walked away briskly, lips pursed, whistling soundlessly.

No more hypocrisy. No more lying awake nights wondering what to do—knowing that the city was dead, knowing that what he did was a useless task, feeling like a heel for taking a salary that he knew he wasn't earning. Sensing the strange, nagging frustration of a worker who knows his work is nonproductive.

He strode toward the parking lot, heading for his helicopter.

Now, maybe he told himself, they could move out into the country the way Betty wanted to. Maybe he could spend his evenings tramping land that belonged to him. A place with a stream. Definitely it had to have a stream he could stock with trout.

He made a mental note to go up into the attic and check his fly equipment.

Martha Johnson was waiting at the barnyard gate when the old car chugged down the lane.

Ole got out stiffly, face rimmed with weariness.

"Sell anything?" asked Martha.

Ole shook his head. "It ain't no use. They won't buy farm-raised stuff. Just laughed at me. Showed me ears of corn twice as big as the ones I had, just as sweet and with more even rows. Showed me melons that had almost no rind at all. Better tasting, too, they said."

He kicked at a clod and it exploded into dust.

"There ain't no getting around it," he declared. "Tank farming sure has ruined us."

"Maybe we better fix to sell the farm," suggested Martha.

Ole said nothing.

"You could get a job on a tank farm," she said. "Harry did. Likes it real well."

Ole shook his head.

"Or maybe a gardener," said Martha. "You would make a right smart gardener. Ritzy folks that's moved out to big estates like to have gardeners to take care of flowers and things. More classy than doing it with machines."

Ole shook his head again. "Couldn't stand to mess around with flowers," he declared. "Not after raising corn for more than twenty years."

"Maybe," said Martha, "we could have one of them little planes. And running water in the house. And a bathtub instead of taking a bath in the old washtub by the kitchen fire."

"Couldn't run a plane," objected Ole.

"Sure you could," said Martha. "Simple

to run, they are. Why, them Anderson kids ain't no more than knee-high to a cricket and they fly one all over. One of them got fooling around and fell out once, but—"

"I got to think about it," said Ole, desperately. "I got to think."

He swung away, vaulted a fence, headed for the fields. Martha stood beside the car and watched him go. One lone tear rolled down her dusty cheek.

"Mr. Taylor is waiting for you," said the girl.

John J. Webster stammered. "But I haven't been here before. He didn't know I was coming."

"Mr. Taylor," insisted the girl, "is waiting for you."

She nodded her head toward the door. It read:

## BUREAU OF HUMAN ADJUSTMENT

"But I came here to get a job," protested Webster: "I didn't come to be adjusted or anything. This is the world committee's placement service, isn't it?"

"That is right," the girl declared. "Won't you see Mr. Taylor?"

"Since you insist," said Webster.

The girl clicked over a switch, spoke into the intercommunicator. "Mr. Webster is here, sir."

"Send him in," said a voice.

Hat in hand, Webster walked through the door.

The man behind the desk had white hair but a young man's face. He motioned toward a chair.

"You've been trying to find a job," he said.

"Yes," said Webster, "but—"

"Please sit down," said Taylor. "If you're thinking about that sign on the door, forget it. Will not try to adjust you."

"I couldn't find a job," said Webster. "I've hunted for weeks and no one would have me. So finally, I came here."

"You didn't want to come here?"

"No, frankly, I didn't. A placement service. It has, well . . . it has an implication I do not like."

Taylor smiled. "The terminology may be unfortunate. You're thinking of the employment services of the old days. The places where men went when they were desperate for work. The government operated places that tried to find work for men so they wouldn't become public charges."

"I'm desperate enough," confessed Webster. "But I still have a pride that made it hard to come. But finally, there was nothing else to do. You see, I turned traitor—"

"You mean," said Taylor, "that you told the truth. Even when it cost you your job. The business world, not only here, but all over the world is not ready for that truth. The businessman still clings to the city myth, to the myth of salesmanship. In time to come he will realize he doesn't need the city, that service and honest values will bring him more substantial business than salesmanship ever did.

"I've wondered, Webster, just what made you do what you did?"

"I was sick of it," said Webster. "Sick of watching men blundering along with their eyes tight shut. Sick of seeing an old tradition being kept alive when it should have been laid away. Sick of King's simpering civic enthusiasm when all cause for enthusiasm had vanished."

Taylor nodded. "Webster, do you think you could adjust human beings?"

Webster merely stared.

"I mean it," said Taylor. "The world committee has been doing it for years, quietly, unobtrusively. Even many of the people who have been adjusted don't know they have been adjusted.

"Changes such as have come since the creation of the world committee following the war has meant much human maladjustment. The advent of workable atomic power took jobs away from hundreds of thousands. They had to be trained and guided into new jobs, some with the new atomics, some into other lines of work. The advent of tank farming swept the farmers off their land. They, perhaps, have supplied us with our greatest problem, for other than the special knowledge needed to grow crops and handle animals, they had no skills. Most of them had no wish for acquiring skills. Most of them were bitterly resentful of having been forced from the livelihood which they inherited from their forebears. And being natural individualists, they offered the toughest psychological problems of any other class."

"Many of them," declared Webster, "still are at loose ends. There's a hundred or more of them squatting out in the houses, living from hand to mouth. Shooting a few rabbits and a few squirrels, doing some fishing, raising vegetables and picking wild

fruit. Engaging in a little petty thievery now and then and doing occasional begging on the uptown streets."

"You know these people?" asked Taylor.

"I know some of them," said Webster. "One of them brings me squirrels and rabbits on occasions. To make up for it, he bums ammunition money."

"They'd resent being adjusted, wouldn't they?"

"Violently," said Webster.

"You know a farmer by the name of Ole Johnson? Still sticking to his farm, still un-reconstructed?"

Webster nodded.

"What if you tried to adjust him?"

"He'd run me off the farm," said Webster.

"Men like Ole and the Squatters," said Taylor, "are our special problems now. Most of the rest of the world is fairly well adjusted, fairly well settled into the groove of the present. Some of them are doing a lot of moaning about the past, but that's just for effect. You couldn't drive them back to their old ways of life.

"Years ago, with the advent of atomics, in fact, the world committee faced a hard decision. Should changes that spelled progress in the world be brought about gradually to allow the people to adjust themselves naturally, or should they be developed as quickly as possible, with the committee aiding in the necessary human adjustment? It was decided, rightly or wrongly, that progress should come first, regardless of its effect upon the people. The decision in the main has proven a wise one.

"We knew, of course, that in many instances, this readjustment could not be made too openly. In some cases, as in large groups of workers who had been displaced, it was possible, but in most individual cases, such as our friend Ole, it was not. These people must be helped to find themselves in this new world, but they must not know that they're being helped. To let them know would destroy confidence and dignity, and human dignity is the keystone of any civilization."

"I knew, of course, about the readjustments made within industry itself," said Webster, "but I had not heard of the individual cases."

"We could not advertise it," Taylor said. "It's practically undercover."

"But why are you telling me all this now?"

"Because we'd like you to come in with us. Have a hand at adjusting Ole to start with. Maybe see what could be done about the Squatters next."

"I don't know—" said Webster.

"We'd been waiting for you to come in," said Taylor. "We knew you'd finally have to come here. Any chance you might have had at any kind of job would have been queered by King. He passed the word along. You're blackballed by every Chamber of Commerce and every civic group in the world to-day."

"Probably I have no choice," said Webster.

"We don't want you to feel that way about it," Taylor said. "Take a while to think it over, then come back. Even if you don't want the job we'll find you another one—in spite of King."

Outside the office, Webster found a scarecrow figure waiting him. It was Levi Lewis, snaggle-toothed grin wiped off, rifle under his arm.

"Some of the boys said they seen you go in here," he explained. "So I waited for you."

"What's the trouble," Webster asked. For Levi's face spoke eloquently of trouble.

"It's them police," said Levi. He spat disgustedly.

"The police," said Webster, and his heart sank as he said the words. For he knew what the trouble was.

"Yeah," said Levi. "They're fixing to burn us out."

"So the council finally gave in," said Webster, face grim.

"I just came from police headquarters," declared Levi. "I told them they better go easy. I told them there'd be guts strewed all over the place if they tried it. I got the boys posted all around the place with orders not to shoot till they're sure of hitting."

"You can't do that, Levi," said Webster, sharply.

"I can't!" retorted Levi. "I done it already. They drove us off the farms, forced us to sell because we couldn't make a living. And they aren't driving us no farther. We either stay here or we die here. And the only way they'll burn us out is when there's no one left to stop them."

He shucked up his pants and spat again.

"And we ain't the only ones that feel that way," he declared. "Gramp is out there with us."

"Gramp!"

"Sure, Gramp. The old guy that lives with you. He's sort of taken over as our commanding general. Says he remembers tricks from the war them police have never heard of. He sent some of the boys over to one of them Legion halls to swipe a cannon. Says he knows where we can get some shells for it from the museum. Says we'll get it all set up and then send word that if the police make a move we'll shell the loop."

"Look, Levi, will you do something for me?"

"Sure will, Mr. Webster."

"Will you go in and ask for a Mr. Taylor. Insist on seeing him. Tell him I'm already on the job."

"Sure will, but where are you going?"

"I'm going up to the city hall."

"Sure you don't want me along?"

"No," declared Webster. "I'll do better alone. And, Levi—"

"Yes."

"Tell Gramp to hold up his artillery. Don't shoot unless he has to—but if he has, to lay it on the line."

"The mayor is busy," said Raymond Brown, his secretary.

"That's what you think," said Webster, starting for the door.

"You can't go in there, Webster," yelled Brown.

He leaped from his chair, came charging around the desk, reaching for Webster. Webster swung broadside with his arm, caught Brown across the chest, swept him back against the desk. The desk skidded and Brown waved his arms, lost his balance, thudded to the floor.

Webster jerked open the mayor's door.

The mayor's feet thumped off his desk. "I told Brown—" he said.

Webster nodded. "And Brown told me. What's the matter, Carter. Afraid King might find out I was here? Afraid of being corrupted by some good ideas?"

"What do you want?" snapped Carter.

"I understand the police are going to burn the houses."

"That's right," declared the mayor, righteously. "They're a menace to the community."

"What community?"

"Look here, Webster—"

"You know there's no community. Just a few of you lousy politicians who stick around so you can claim residence, so you

can be sure of being elected every year and drag down your salaries. It's getting to the point where all you have to do is vote for-one another. The people who work in the stores and shops, even those who do the meanest jobs in the factories, don't live inside the city limits. The businessmen quit the city long ago. They do business here, but they aren't residents."

"But this is still a city," declared the mayor.

"I didn't come to argue that with you," said Webster. "I came to try to make you see that you're doing wrong by burning those houses. Even if you don't realize it, the *houses* are homes to people who have no other homes. People who have come to this city to seek sanctuary, who have found refuge with us. In a measure, they are our responsibility."

"They're not our responsibility," gritted the mayor. "Whatever happens to them is their own hard luck. We didn't ask them here. We don't want them here. They contribute nothing to the community. You're going to tell me they're misfits. Well, can I help that? You're going to say they can't find jobs. And I'll tell you they could find jobs if they tried to find them. There's work to be done, there's always work to be done. They've been filled up with this new world talk and they figure it's up to someone to find the place that suits them and the job that suits them."

"You sound like a rugged individualist," said Webster.

"You say that like you think it's funny," yapped the mayor.

"I do think it's funny," said Webster. "Funny, and tragic, that anyone should think that way today."

"The world would be a lot better off with some rugged individualism," snapped the mayor. "Look at the men who have gone places—"

"Meaning yourself?" asked Webster.

"You might take me, for example," Carter agreed. "I worked hard. I took advantage of opportunity. I had some foresight. I did—"

"You mean you licked the correct boots and stepped in the proper faces," said Webster. "You're the shining example of the kind of people the world doesn't want today. You positively smell musty, your ideas are so old. You're the last of the politicians, Carter, just as I was the last of the Chamber of Commerce secretaries. Only you don't

know it yet. I did. I got out. Even when it cost me something, I got out, because I had to save my self-respect. Your kind of politics is dead. They are dead because any tinhorn with a loud mouth and a brassy front could gain power by appeal to mob psychology. And you haven't got mob psychology any more. You can't have mob psychology when people don't give a care what happens to a thing that's dead already—a political system that broke down under its own weight."

"Get out of here," screamed Carter. "Get out before I have the cops come and throw you out."

"You forget," said Webster, "that I came in to talk about the *houses*."

"It won't do you any good," snarled Carter. "You can stand and talk until doomsday for all the good it does. Those houses burn. That's final."

"How would you like to see the loop a mass of rubble?" asked Webster.

"Your comparison," said Carter, "is grotesque."

"I wasn't talking about comparisons," said Webster.

"You weren't—" The mayor stared at him. "What were you talking about then?"

"Only this," said Webster. "The second the first torch touches the houses, the first shell will land on the city hall. And the second one will hit the First National. They'll go on down the line, the biggest targets first."

Carter gaped. Then a flush of anger crawled from his throat up into his face.

"It won't work, Webster," he snapped. "You can't bluff me. Any cock-and-bull story like that—"

"It's no cock-and-bull story," declared Webster. "Those men have cannons out there. Pieces from in front of Legion halls, from the museums. And they have men who know how to work them. They wouldn't need them, really. It's practically point-blank range. Like shooting the broad side of a barn."

Carter reached for the radio, but Webster stopped him with an upraised hand.

"Better think a minute, Carter, before you go flying off the handle. You're on a spot. Go ahead with your plan and you have a battle on your hands. The *houses* may burn but the loop is wrecked. The business men will have your scalp for that."

Carter's hand retreated from the radio.

From far away came the sharp crack of a rifle.



"Better call them off," warned Webster.

Carter's face twisted with indecision.

Another rifle shot, another and another.

"Pretty soon," said Webster, "it will have gone too far. So far that you can't stop it."

A thudding blast rattled the windows of the room. Carter leaped from his chair.

Webster felt the blood drain from his head, felt suddenly cold and weak. But he fought to keep his face straight and his voice calm.

Carter was staring out the window, like a man of stone.

"I'm afraid," said Webster, "that it's gone too far already."

The radio on the desk chirped insistently, red light flashing.

Carter reached out a trembling hand and snapped it on.

"Carter," a voice was saying. "Carter. Carter."

Webster recognized that voice—the bull-throated tone of Police Chief Jim Maxwell.

"What is it?" asked Carter.

"They had a big gun," said Maxwell. "It exploded when they tried to fire it. Ammunition no good, I guess."

"One gun?" asked Carter. "Only one gun?"

"I don't see any others."

"I heard rifle fire," said Carter.

"Yeah, they did some shooting at us. Wounded a couple of the boys. But they've pulled back now. Deeper into the brush. No shooting now."

"O.K.," said Carter, "go ahead and start the fires."

Webster started forward. "Ask him, ask him—"

But Carter clicked the switch and the radio went dead.

"What was it you wanted to ask?"

"Nothing," said Webster. "Nothing that amounted to anything."

He couldn't tell Carter that Gramp had been the one who knew about firing big guns. Couldn't tell him that when the gun exploded Gramp had been there.

He'd have to get out of here, get over to the gun as quickly as possible.

"It was a good bluff, Webster," Carter was saying. "A good bluff, but it petered out."

The mayor turned to the window that faced toward the houses.

"No more firing," he said. "They gave up quick."

"You'll be lucky," snapped Webster, "if six of your policemen come back alive. Those men with the rifles are out in the brush and they can pick the eye out of a squirrel at a hundred yards."

Feet pounded in the corridor outside, two pairs of feet racing toward the door.

The mayor whirled from his window and Webster pivoted around.

"Gramp!" he yelled.

"Hi, Johnny," puffed Gramp, skidding to a stop.

The man behind Gramp was a young man and he was waving something in his hand—a sheaf of papers that rustled as he waved them.

"What do you want?" asked the mayor.

"Plenty," said Gramp.

He stood for a moment, catching back his breath, said between puffs:

"Meet my friend, Henry Adams."

"Adams?" asked the mayor.

"Sure," said Gramp. "His granddaddy used to live here. Out on Twenty-seventh Street."

"Oh," said the mayor and it was as if someone had smacked him with a brick. "Oh, you mean F. J. Adams."

"Bet your boots," said Gramp. "Him and me, we marched into Berlin together. Used to keep me awake nights telling me about his boy back home."

Carter nodded to Henry Adams. "As mayor of the city," he said, trying to regain some of his dignity, "I welcome you to—"

"It's not a particularly fitting welcome," Adams said. "I understand you are burning my property."

"Your property!" The mayor choked and his eyes stared in disbelief at the sheaf of papers Adams waved at him.

"Yeah, his property," shrilled Gramp. "He just bought it. We just come from the treasurer's office. Paid all the back taxes and penalties and all the other things you legal thieves thought up to slap against them houses."

"But, but—" the mayor was gasping for words, gasping for breath. "Not all of it. Perhaps just the old Adams property."

"Lock, stock and barrel," said Gramp, triumphantly.

"And now," said Adams to the mayor, "if you would kindly tell your men to stop destroying my property."

Carter bent over the desk and fumbled at the radio, his hands suddenly all thumbs.

"Maxwell," he shouted. "Maxwell. Maxwell."

"What do you want?" Maxwell yelled back.

"Stop setting those fires," yelled Carter. "Start putting them out. Call out the fire department. Do anything. But stop those fires."

"Cripes," said Maxwell, "I wish you'd make up your mind."

"You do what I tell you," screamed the mayor. "You put out those fires."

"All right," said Maxwell. "All right. Keep your shirt on. But the boys won't like it. They won't like getting shot at to do something you change your mind about."

Carter straightened from the radio.

"Let me assure you, Mr. Adams," he said, "that this is all a big mistake."

"It is," Adams declared solemnly. "A very great mistake, mayor. The biggest one you ever made."

For a moment the two of them stood there, looking across the room at one another.

"Tomorrow," said Adams, "I shall file a petition with the courts asking dissolution of the city charter. As owner of the greatest portion of the land included in the corporate limits, both from the standpoint of area and valuation, I understand I have a perfect legal right to do that."

The mayor gulped, finally brought out some words.

"Upon what grounds?" he asked.

"Upon the grounds," said Adams, "that there is no further need of it. I do not believe I shall have too hard a time to prove my case."

"But . . . but . . . that means."

"Yeah," said Gramp, "you know what it means. It means you are out right on your ear."

"A park," said Gramp, waving his arm over the wilderness that once had been the residential section of the city. "A park so that people can remember how their old folks lived."

The three of them stood on Tower Hill, with the rusty old water tower looming above them, its sturdy steel legs planted in a sea of waist-high grass.

"Not a park, exactly," explained Henry Adams. "A memorial, rather. A memorial to an era of communal life that will be forgotten in another hundred years. A preservation of a number of peculiar types of construction that arose to suit certain conditions and each man's particular tastes.

No slavery to any architectural concepts, but an effort made to achieve better living. In another hundred years men will walk through those houses down there with the same feeling of respect and awe they have when they go into a museum today. It will be to them something out of what amounts to a primeval age, a stepping stone on the way to the better, fuller life. Artists will spend their lives transferring those old houses to their canvasses. Writers of historical novels will come here for the breath of authenticity."

"But you said you meant to restore all the houses, make the lawns and gardens exactly like they were before," said Webster. "That will take a fortune. And after that, another fortune to keep them in shape."

"I have too much money," said Adams. "Entirely too much money. Remember, my grandfather and father got into atomics on the ground floor."

"Best crap player I ever knew, your granddaddy was," said Gramp. "Used to take me for a cleaning every pay day."

"In the old days," said Adams, "when a man had too much money, there were other things he could do with it. Organized charities, for example. Or medical research or something like that. But there are no organized charities today. Not enough business to keep them going. And since the world committee has hit its stride, there is ample money for all the research, medical or otherwise, anyone might wish to do."

"I didn't plan this thing when I came back to see my grandfather's old house. Just wanted to see it, that was all. He'd told me so much about it. How he planted the tree in the front lawn. And the rose garden he had out back."

"And then I saw it. And it was a mocking ghost. It was something that had been left behind. Something that had meant a lot to someone and had been left behind. Standing there in front of that house with Gramp that day, it came to me that I could do nothing better than preserve for posterity a cross section of the life their ancestors lived."

A thin blue thread of smoke rose above the trees far below.

Webster pointed to it. "What about them?"

"The Squatters stay," said Adams, "if they want to. There will be plenty of work for them to do. And there'll always be a house or two that they can have to live in."

"There's just one thing that bothers me. I can't be here all the time myself. I'll need someone to manage the project. It'll be a lifelong job."

He looked at Webster.

"Go ahead, Johnny," said Gramp.

Webster shook his head. "Betty's got her heart set on that place out in the country."

"You wouldn't have to stay here," said Adams. "You could fly in every day."

From the foot of the hill came a hail.

"It's Ole," yelled Gramp.

He waved his cane "Hi, Ole. Come on up."

They watched Ole striding up the hill, waiting for him, silently.

"Wanted to talk to you, Johnny," said Ole. "Got an idea. Waked me out of a sound sleep last night."

"Go ahead," said Webster.

Ole glanced at Adams. "He's all right," said Webster. "He's Henry Adams. Maybe you remember his grandfather, old F. J."

"I remember him," said Ole. "Nuts about atomic power, he was. How did he make out?"

"He made out rather well," said Adams.

"Glad to hear that," Ole said. "Guess I was wrong. Said he never would amount to nothing. Daydreamed all the time."

"How about that idea?" Webster asked.

"You heard about dude ranches, ain't you?" Ole asked.

Webster nodded.

"Place," said Ole, "where people used to go and pretend they were cowboys. Pleased them because they really didn't know all the hard work there was in ranching and figured it was romanticlike to ride horses and—"

"Look," asked Webster, "you aren't figuring on turning your farm into a dude ranch, are you?"

"Nope," said Ole. "Not a dude ranch. Dude farm, maybe. Folks don't know too much about farms any more, since there ain't hardly no farms. And they'll read about the frost being on the pumpkin and how pretty a—"

Webster stared at Ole. "They'd go for it, Ole," he declared. "They'd kill one another in the rush to spend their vacation on a real, honest-to-God, old-time farm."

Out of a clump of bushes down the hillside burst a shining thing that chattered and gurgled and screeched, blades flashing, a crane-like arm waving.

"What the—" asked Adams.

"It's that dadburned lawn mower!" yelled Gramp.

## SANDWICH FOR NAZIS—Continued from page 32

binder produce a "plastic" material that displays the terrific strength of glass fibers, with extremely light weight. What the glass fibers lack individually in stiffness is in large measure supplied by the mutual support they can render each other when the plastic binder is added. This compound material—glass and synthetic resin—is only one of a great group of such mixed-material possibilities. Essentially wood itself is, of course, just such a mixed-substance material, where cellulose fibers are bound together by a natural resin, lignin. But Man has not done much work with interdependent strength-materials; the possibilities offer a complete line of research, a line that may well replace many of the present materials with far lighter, stronger, compound materials.

In essence, the sandwich materials represent the compound material reduced to its simplest elements. A layer of material A, a layer of B and a layer of A—or C. Common plywood is the I representative of the class. The next most familiar example is shatterproof glass. In plywood, the "layer of A" is wood, and B becomes the binding adhesive. In shatterproof glass, it's glass and a synthetic resin. But the sandwich really begins to come into its own with the type of sandwich represented in the famous Mosquito fighter-bomber. The sandwich is wood, with a glue binding the layers together; the trick is that the wooden sandwich is made up of a layer of very thin, fragile hardwood veneer, a comparatively thick slab of balsa—on the order of

a quarter of an inch in thickness—and another thin, fragile peeling of hardwood veneer. The veneer will break and split if handled roughly. It has no useful strength—you can stick a finger through it, it's so flimsy. The balsa—? Well, if you've never worked with balsa, you can't appreciate what spongy, soft, almost pithy wood it is. It cuts like cheese—but even more easily, because it doesn't stick to the knife. You can make dents in a balsa plank by squeezing it between your fingers.

Out of this the tough, viciously deadly Mosquito is made and that balsa-and-veneer sandwich is the load-bearing, stress-absorbing material! How? True, you can dent balsa with your fingers—but the dent is shallow, and it takes a good strong grip. And despite its spongy softness, it doesn't split as easily as some harder woods. Its tensile strength is low—but it is feather-light, and, in comparatively thick cross section, has good compression strength. And while veneer splits at the slightest strain across the grain, its tensile strength along the grain is really high. The balsa, locked between the two veneers, won't let them belly and wave: the veneers can absorb heavy stresses, because, their grains laid at right angles, they reinforce each other and the balsa. The stiffness they so woefully lack, the featherlight, thick layer of balsa supplies. The sandwich is tough, strong, rigid, and extremely light—as perfect for the job as the Nazi-killing Mosquito is in its job.

THE EDITOR.

# ENVIRONMENT

By CHESTER S. GEIER

*The planet was mysteriously unsafe. Colonists landed—and vanished. Investigators landed, prepared to seek out and warn of danger and how to deal with it—and vanished. No man could ever return to report—the environment saw to that.*

THE sun was rising above the towers and spires of the city to the west. It sent questing fingers of brightness through the maze of streets and avenues, wiping away the last, pale shadows of night. But in the ageless splendor of the dawn, the city dreamed on.

The ship came with the dawn, riding down out of the sky on wings of flame, proclaiming its arrival in a voice of muted thunder. It came out of the west, dropping lower and lower, to cruise finally in great, slow circles. It moved over the city like a vast, silver-gray hunting hawk, searching for prey. There was something of eagerness in the leashed thunder of its voice.

Still the city dreamed on. Nothing, it seemed, could disturb its dreaming. Nothing could. It was not a sentient dreaming. It was a part of the city itself, something woven into every flowing line and graceful curve. As long as the city endured, the dream would go on.

The voice of the ship had grown plaintive, filled with an aching disappointment. Its circling was aimless, dispirited. It rose high in the sky, hesitated, then glided down and down. It landed on an expanse of green in what had once been a large and beautiful park.

It rested now on the sward, a great, silver-gray ovoid that had a certain harsh, utilitarian beauty. There was a pause of motionlessness, then a circular lock door opened in its side. Jon Gaynor appeared in the lock and jumped to the ground. He gazed across the park to where the nearest towers of the city leaped and soared, and his gray eyes were narrowed in a frown of mystification.

"Deserted!" he whispered. "Deserted—But why?"

Jon Gaynor turned as Wade Harlan emerged from the lock. The two glanced at each other, then, in mutual perplexity, their eyes turned to the dreaming city. After a long moment, Wade Harlan spoke.

"Jon, I was thinking— Perhaps this isn't the right planet. Perhaps . . . perhaps old Mark Gaynor and the Purists never landed here at all—"

Jon Gaynor shook his brown head slowly. He was a tall, lean figure in a tight-fitting, slate-gray overall. "I've considered that possibility, Wade. No—this is the place, all right. Everything checks against the data given in that old Bureau of Expeditions report. Seven planets in the system—this the second planet. And this world fits perfectly the description given in the report—almost a second Earth. Then there's the sun. Its type, density, rate of radiation, spectrum—all the rest—they check, too."

Gaynor shook his head again. "Granted there could exist another system of seven planets, with the second habitable. But it's too much to suppose that the description of that second planet, as well as the description of its sun, would exactly fit the expedition report. And the report mentioned a deserted city. We're standing in the middle of it now. The only thing that doesn't check is that it's still deserted."

Harlan gave a slight shrug. "That may not mean anything, Jon. How can you be certain that Mark Gaynor and the Purists came here at all? The only clue you have is that old Bureau of Expeditions report, describing this city and planet, which you found among the personal effects Mark Gaynor left behind. It may not have meant anything."

"Perhaps— But I'm pretty sure it did. You see, old Mark and the Purists wanted to live far from all others, somewhere where there would be none to laugh at them for their faith in the ancient religious beliefs. The only habitable planets which answered their purposes were a tremendously remote few. Of them all, this was the only one possessing a city—and a deserted city at that."

"So you think they must have come here because of the benefits offered by the city?"

"That's one reason. The other . . . well, old Mark had a pile of Bureau of Expedition reports dating back for two hundred years. The report relating to this planetary system was marked in red, as being of special interest. It was the only report so marked—

Harlan smiled in friendly derision. "And that to a misplaced hero-worship for a crackpot ancestor—and the answer is that we've come on a goose chase. Lord, Jon, even with the Hyperspatial Drive to carry us back over the immense distance, it's going to be a terrific job getting back to Earth. You know what a time we had, finding this planet. The Hyperspatial Drive is a wonderful thing—but it has its drawbacks. You go in here, and you come out there—millions of miles away. If you're lucky, you're only within a few million miles or so of your destination. If not—and that's most of the time—you simply try again. And again—"

"That's a small worry," Gaynor replied. "And as for old Mark, he was hardly a crackpot. It took one hundred and twenty years for the world to realize that. His ideas on how people should live and think were fine—but they just didn't fit in with the general scheme of things. On a small group, they could have been applied beautifully. And such a group, living and thinking that way, might have risen to limitless heights of greatness. Hero-worship? No—I never had such feelings for my great-great-uncle, Mark Gaynor. I just had a feverish desire to see how far the Purists had risen—to see if their way of life had given them an advantage over others."

Harlan was sober. "Maybe we'll never learn what happened to them, Jon. The city is deserted. Either the Purists came here and left—or they never came here at all."

Gaynor straightened with purpose. "We'll learn which is the answer. I'm not leaving until we do. We'll—" Gaynor broke off, his eyes jerking toward the sky. High up and far away in the blue, something moved, a vast swarm of objects too tiny for identification. They soared and circled, dipped and swooped like birds. And as the two men from another planet watched, sounds drifted down to them—sweet, crystalline tinklings and chimings, so infinitely faint that they seemed to be sensed rather than heard.

"Life—" Harlan murmured. "There's life here of sorts, Jon."

Gaynor nodded thoughtfully. "And that may mean danger. We're going to examine the city—and I think we'd better be armed."

While Harlan watched the graceful, aimless maneuvers of the aerial creatures, Gaynor went back into the ship. In a moment, he returned with laden arms. He and Harlan strapped the antigravity flight units to their backs, buckled the positron blasters about their waists. Then they lifted into the air, soared with easy speed toward a cluster of glowing towers.

As they flew, a small cloud of the aerial creatures flashed past. The things seemed to be intelligent, for, as though catching sight of the two men, they suddenly changed course, circling with a clearly evident display of excited curiosity. The crystalline chimings and tinklings which they emitted held an elfin note of astonishment.

If astonishment it actually was, Gaynor and Harlan were equally amazed at close view of the creatures. For they were great, faceted crystals whose interiors flamed with glorious color—exquisite rainbow shades that pulsed and changed with the throb of life. Like a carillon of crystal bells, their chimings and tinklings rang out—so infinitely sweet and clear and plaintive that it was both a pain and a pleasure to hear.

"Crystalline life!" Harlan exclaimed. His voice became thoughtful. "Wonder if it's the only kind of life here."

Gaynor said nothing. He watched the circling crystal creatures with wary eyes, the positron blaster gripped in his hand. But the things gave no evidence of being inimical—or at least no evidence of being immediately so. With a last exquisite burst of chimings, they coalesced into a small cloud and soared away, glittering, flashing, with prismatic splendor in the sunlight.

On the invisible wings of their antigravity flight units, Gaynor and Harlan had approached quite close to the cluster of towers which was their goal. Gliding finally through the space between two, they found themselves within a snug, circular inclosure, about the circumference of which the towers were spaced. The floor of the inclosure was in effect a tiny park, for grass and trees grew here, and there were shaded walks built of the same palely glowing substance as the towers. In the exact center of the place was a fountain, wrought of some lustrous, silvery metal. Only a thin trickle of water came from it now.

Gaynor dipped down, landed gently beside the fountain. He bent, peering, then gestured excitedly to Harlan, who was hovering close.

"Wade—there's a bas-relief around this thing! Figures—"

Harlan touched ground, joined Gaynor in a tense scrutiny of the design. A procession of strange, lithe beings were pictured in bas-relief around the curving base of the fountain. Their forms were essentially humanoid, possessed of two arms, two legs, and large, well-formed head. Except for an exotic, fawnlike quality about the graceful, parading figures, Gaynor and Harlan might have been gazing at a depiction of garlanded, Terrestrial youths and maidens.

"The builders of the city," Gaynor said softly. "They looked a lot like us. Parallel evolution, maybe. This planet and sun are almost twins of ours. Wade—I wonder what happened to them?"

Harlan shook his shock of red hair slowly, saying nothing. His blue eyes were dark with somber speculation.

Gaynor's voice whispered on. "The city was already deserted when that government expedition discovered it some one hundred and thirty years ago. The city couldn't always have been that way. Once there were people on this planet—beings who thought and moved and dreamed, who built in material things an edifice symbolic of their dreaming. Why did they disappear? What could have been responsible? War, disease—or simply the dying out of a race?"

Harlan shrugged his great shoulders uncomfortably. His voice was gruff. "Maybe the answer is here somewhere. Maybe not. If it isn't, maybe we'll be better off, not knowing. When an entire race disappears for no apparent reason, as the people of this city seem to have done, the answer usually isn't a nice one."

The two men took to one of the paths radiating away from the fountain, followed it to a great, arching entranceway at the base of a tower-building. Slowly they entered—the sunlight dimmed and they moved through a soft gloom. Presently they found themselves in a vast foyer—if such it was. In the middle of the place was a circular dais, with steps leading to a small platform at the top.

They mounted the steps, gained the platform. Of a sudden, a faint whispering grew, and without any other warning, they began

to rise slowly into the air. Harlan released a cry of surprise and shock. Gaynor ripped his positron blaster free, sought desperately to writhe from the influence of the force that had gripped him.

And then Gaynor quieted. His eyes were bright with a realization. "An elevator!" he gasped. "Wade—we stepped into some kind of elevating force."

They ceased struggling and were borne gently up and up. They passed through an opening in the ceiling of the foyer, found themselves within a circular shaft, the top of which was lost in the dimness above. Vertical handrails lined the shaft. It was only after passing two floors that they divined the purpose of these. Then, reaching the third floor, each gripped a handrail, and they stepped from the force.

They found themselves within a vast, well-lighted apartment. The source of illumination was not apparent, seeming to emanate from the very walls. Room opened after spacious room—and each was as utterly barren of furnishings as the last. Barren, that is, except for two things. The first was that the walls were covered with murals or paintings—life-sized, rich with glowing color, and almost photographic in detail. The second was that one wall of each room contained a tiny niche. Gaynor and Harlan investigated a niche in one room they entered. Within it was a solitary object—a large jewel, or at least what seemed to be a jewel.

"This is screwy," Harlan muttered. "It doesn't make sense. How could anyone have lived in a place like this?"

Gaynor's eyes were dark with thought. He answered slowly, "Don't make the mistake of judging things here according to our standard of culture. To the builders of the city, Wade, these rooms might have been thoroughly cozy and comfortable, containing every essential necessary to their daily lives."

"Maybe," Harlan grunted. "But I certainly don't see those essentials."

"This thing—" Gaynor lifted the jewel from its niche. "Maybe this thing holds an answer of some kind." Gaynor balanced the jewel in his palm, gazing down at it frowningly. His thoughts were wondering, speculative. Then the speculation faded—he found himself concentrating on the thing, as though by sheer force of will he could fathom its purpose.

And then it happened—the jewel grew

cold in his hand—a faint, rose-colored glow surrounded it like an aura. A musical tinkling sounded. Harlan jumped, a yell bursting full-throated from his lungs. Gaynor spun about, surprised, uncomprehending.

"I . . . I saw things!" Harlan husked. "Objects, Jon—The room was full of them—angular ghosts!"

Gaynor stared at the other without speaking. His features were lax with a dawning awe.

Harlan said suddenly, "Try it again, Jon. Look at that thing, Maybe—"

Gaynor returned his gaze to the jewel. He forced his mind quiet, concentrated. Again the jewel grew cold, and again the tinkling sounded. Harlan was tense, rigid, his narrowed eyes probing the room. Within the room, outlines wavered mistily—outlines of things which might have been strange furniture, or queer, angular machines.

"Harder, Jon! Harder!" Harlan prompted.

Gaynor was sweating. He could feel the perspiration roll down his temples. His eyes seemed to be popping from their sockets.

Harlan strained with his peering. The outlines grew stronger, darkened—but only for a moment. The next they wavered mistily again, thinned, and were gone.

Gaynor drew a sobbing breath, straightened up. He asked, "Wade—what did you see?"

"I don't know for sure. Things—or the ghosts of things. Here—give me that. I'm going to see what I can do."

Gaynor relinquished the jewel. Holding it in his palm, Harlan gathered his thoughts, poised them, focused them. And, watching, Gaynor saw the ghostly outlines for the first time—misty suggestions of angles and curves, hints of forms whose purpose he could not guess. Alien ghosts of alien objects, summoned by will from some alien limbo.

Abruptly, the outlines faded and were gone. The tinkling of the jewel thinned and died.

Harlan drew a shuddering breath. "Jon—you saw them?"

"Yes. Dimly."

"We . . . we haven't got the strength, Jon. We haven't got the power necessary to materialize the objects—whatever they are."

"Maybe that's the drawback. Or—maybe we've got the strength, but simply can't

materialize things—objects—whose size, shape, and purpose we do not know and cannot guess."

"That might be it," Harlan's voice grew sharp. "But, great space, Jon, what possibly could be the idea behind it? Why did they—that other race—construct buildings in which the rooms were left unfurnished, or which could be furnished merely by concentrating on . . . on these jewels? What could have been the reason behind it?"

Gaynor shook his head. "We'll never know that, perhaps. At least, we'll never know if we persist in thinking in terms of our own culture. The builders of this city were humanoid, Wade—but mentally they were alien. Don't forget that. These rooms may not have been living quarters at all. They may have been repositories for valuable things, of which the jewels were the means of materializing. Only those who knew how could materialize them. Thus, perhaps, those things were kept safe."

"That might be it," Harlan muttered. "It makes sense."

"These pictures"—Gaynor gestured at the paintings on the walls—"might contain the answer. If we knew how to read them, they might tell us the purpose of these empty rooms—why the furnishings or machines had to be materialized. I wonder, Wade . . . I wonder if each of these pictures is complete in itself, or if each is part of a greater series. You know—like a book. You read one page, and it doesn't make sense. You read the whole thing—and it does."

"The beginning, Jon," Harlan whispered. "We'd have to start at the beginning."

"Yes—the beginning."

Harlan replaced the jewel in its niche, and on the invisible wings of their anti-gravity flight units, they glided back to the force shaft. Here they switched off their units, allowed the force to carry them up. But the apartments on the upper floors continued nothing new or illuminating. Like the first they had visited, these were empty, save for the wall paintings and the jewels in their niches. They returned to the shaft again, this time to meet a complication.

"Say—how do we get down?" Harlan puzzled. "This thing has been carrying us up all the time, and there doesn't seem to be another one for descending."

"Why, you simply will yourself to go down," Gaynor said. Then he looked blankly surprised.

Harlan nodded gravely. "Of course," he



said. "That's the answer. I should have thought of it myself."

They descended. Outside, the sun was bright and warm. Under its light the city dreamed on.

Gaynor and Harlan soared through the warmth. The city was very bright and still. Far away and high in the blue, glittering swarms of the crystal creatures darted. Their tinkling and chiming drifted down to the two men.

Gaynor and Harlan descended several times to investigate tower buildings, but these were very much like the first they had visited. The spacious apartments seemed to echo in their strange emptiness, each one seemingly louder than the last. Twice they took turns, attempted to materialize the unguessable furnishings of the rooms. Each time they failed. And afterward they did not disturb the jewels in their niches. They merely gazed at the flaming wall paintings, and came away.

Again they glided through the air, though slowly and thoughtfully, now. They were silent. Beneath them, the city dreamed. Once a cloud of crystal creatures flashed past, sparkling, chiming, but the two did not seem to notice.

"Jon—?" Harlan's voice was hesitant.

"Yes?"

"I don't know how to put it into words, but—well, don't you feel that you are beginning to *know*?"

"Yes—there's the ghost of something in my mind. Those pictures, Wade—"

"Yes, Jon, the pictures."

Again they were silent. Gaynor broke the silence.

"Wade—all my life I've been reading primers. Someone just gave me a college textbook, and I glanced through several pages. Naturally, I did not understand, but here and there I found words familiar to me. They left a ghost in my mind—"

"You've got to go back to the beginning, Jon. You've got to read all the books which will help you to understand that college textbook."

"Yes, Wade, the beginning—"

They drifted on while the city dreamed beneath them. The sun was a swaddling blanket of brightness. Like memory-sounds, faint chimings and tinklings wafted on the air.

And then Gaynor was grasping Harlan's arm. "Wade—down there. Look!" He pointed tensely.

Harlan stiffened as he saw it. The ship was a tiny thing, almost lost amid the greenery of the park. Almost in unison, the two touched the controls of their antigravity flight units, arrowed down in a swift, gentle arc.

The ship was very big, like no ship they had ever seen before. It was a thing of harsh angles, built of some strange red metal or alloy that gleamed in the sunlight with the hue of blood. A square opening gaped in its side. Slowly, Gaynor and Harlan entered it.

It was as though they entered the gloom of another world. Little of what they saw was familiar to them, and they had to guess the purpose of the rest. There were passageways and corridors, and rooms opened from these. A few they were able to identify, but the rest, filled with queer, angular furniture and sprawling machines, escaped classification. They left the ship—and the sunlight felt good.

Gaynor's voice rustled dryly. "They were humanoid, Wade, the people who built that ship. If nothing else made sense, the things we saw showed that. But the people who made that ship were not of the city. They were spawned on some planet circling another sun."

"They came here," Harlan rasped. "They came—and they left that ship behind—Jon . . . they came . . . and they never left this world—"

"Wade—I'm thinking. There might have been other ships—"

Harlan touched the butt of his positron blaster, and his face was pale. "We've got to look, Jon. That's something we've got to know."

They lifted into the air. Circling and dipping, they searched. The sun was at zenith when they found the second ship. By mid-afternoon they had found a third and a fourth. The fourth was the *Ark*, the hyper-space cruiser in which old Mark Gaynor and his band of Purists had left the Earth some one hundred and twenty years before.

The four ships which Gaynor and Harlan had found had two things in common. Each had been built by a different humanoid people, and each was completely deserted. Other than this, there was no basis of comparison between them. Each was separate and distinct, unique in its alienness. Even the *Ark*, long outmoded, seemed strange.

In the *Ark*, Gaynor and Harlan found nothing to indicate what had happened to

its passengers. Everything was orderly and neat—more, even in the most excellent condition. Nothing written had been left behind, not the slightest scrap of rotting paper.

Gaynor whispered, "They *did* come here, then. And the same thing happened to them that happened to all the rest of the people who landed here. The same thing, I'm sure, that happened to the builders of the city. Why did they leave these ships behind? Where did they go? What *could* have happened to them?"

Harlan shook his red head somberly. "We'd better not know that. If we stay and try to find out, the same thing will happen to us. That government expedition which discovered this planet encountered the same mystery—but they didn't try to find out. They returned to Earth. Jon—we'd better get back to the *Paragon*. We'd better leave while we can."

"And in time more people would come to settle here. And there would be more empty ships." Gaynor's lips tightened to a stubborn line. "Wade—I'm not leaving until I crack the mystery of this place. I'm going to find what happened to old Mark and the Purists. We've been warned—we'll be on the alert."

Harlan met Gaynor's determined gaze, and then he looked away. He moistened his lips. After a long moment he gave a stiff nod. His voice was very low.

"Then we've got to start at the beginning, Jon. Those pictures—"

"Yes, Wade, the pictures. I'm sure they hold the answer to the whole thing. We've got to find that beginning. You've noticed how the city is strung out. At one end is the beginning, at the other—"

"The end!" Harlan said abruptly.

"No. Wade. The answer."

They returned first to the *Paragon*, to satisfy pangs of hunger too intense to be ignored any longer. Then, donning their antigravity flight units once more, they took to the air. They circled several times, set out finally for a point on the horizon where the city thinned out and finally terminated.

Their flight ended at a single, slender tower set in the midst of a parklike expanse. That they had reached the end of the city, they knew, for ahead of them no other building was in sight. They floated to the ground, stared silently at the tower. It glowed with a chaste whiteness in the late afternoon light—serene, somewhat aloof, lovely in its simplicity and solitariness.

Harlan spoke softly. "The beginning? Or—the end?"

"That's what we have to find out," Gaynor responded. "We're going in there, Wade."

The interior of the tower was dark and cool, filled with the solemn hush of a cathedral. It consisted solely of one great room, its ceiling lost in sheerness of height. And except for the ever-present wall paintings, it was empty—utterly bare.

Gaynor and Harlan gazed at the paintings, and then they looked at each other, and slowly they nodded. Silently they left.

"That . . . that wasn't the beginning," Harlan stated slowly.

"No, Wade. That was—the end. The beginning lies on the opposite side of the city. But we'll have to postpone our investigation until morning. We wouldn't reach the other end of the city until dark."

They returned to the *Paragon*. The sun was setting behind the towers of the city to the east, sinking into a glory of rose and gold. Slowly the paling fingers of its radiance withdrew from the city. Night came in all its starry splendor.

Gaynor and Harlan were up with the dawn. Eagerness to be back at their investigations fired them. They hurried impatiently through breakfast. Then, attaching kits of emergency ration concentrates to their belts and donning their anti-gravity flight units, they took to the air.

As they flew, Gaynor and Harlan had to remind themselves that this was the second day of their visit and not the first, so closely did the new day resemble the one preceding. Nothing had changed. The city beneath them still dreamed on. And far away and high in the blue, glittering clouds of the crystal creatures darted and danced, their chimings and tinklings sounding like echoes of melody from an elfin world.

The sun was bright and warm when Gaynor and Harlan reached the end of the city opposite the one which they had investigated the day before. Here they found no slender tower. There was nothing to show that this part of the city was in any way different from the rest. The general plan of tower-encircled courts was the same as everywhere else. The city merely terminated—or looking at it the other way, merely began.

Gaynor and Harlan glided down into one of the very first of the tower-encircled

courts. They touched ground, switched off their flight units, stood gazing slowly about them.

Gaynor muttered, "The beginning? Or—Maybe we were wrong, Wade. Maybe there is no beginning."

"Those towers should tell us," Harlan said. "Let's have a look inside them, Jon."

They entered an arching doorway, strode into a great foyer. Within this they had their first indication that this part of the city actually was different from the rest. For within the foyer was no dais and force shaft as they had found previously. Instead, a broad stairway led to the floors above.

They mounted the stairs. The walls of the first apartment they investigated were covered with paintings, as everywhere else, but this time the spacious rooms were not empty. They were furnished. Gaynor and Harlan gazed upon softly gleaming objects which very clearly were tables and chairs, deep, luxurious couches, and cabinets of various sizes and shapes. At first everything seemed strange to them, and as they glanced about, they found themselves comparing the furniture to that which they had seen in homes on Earth. And after a while things no longer seemed strange at all.

Gaynor blinked his eyes rapidly several times. He frowned puzzledly. "Wade—either I'm crazy, or this room has changed."

Harlan was gazing at the wall paintings. His voice came as from far away. "Changed? Why, yes. Things are as they should be—now."

Gaynor gazed at the walls, and then he nodded. "That's right, Wade. Of course."

Gaynor walked over to a low cabinet. Somewhere before he had seen a cabinet like this one. He felt that he should know its purpose, yet it eluded him. He stared at it musingly. And then he remembered something—his eyes lifted to the paintings on the wall. No. The other wall? Yes.

Gaynor looked at the cabinet again—and now a slow murmur of melody arose within the room. Hauntingly familiar, poignantly sweet, yet formless. Gaynor looked at the walls again. The melody shaped itself, grew stronger, and the lilting strains of a space-man's song flooded richly through the room.

*I'm blasting the far trails,  
Following the star trails,  
Taking the home trails,  
Back, dear, to you—*

"The Star Trails Home to You," Gaynor

whispered. Sudden nostalgia washed over him in a wave. Home. The Earth—His eyes lifted to the walls, and he was comforted.

Gaynor looked around for Harlan. He found the other standing before a second cabinet across the room. Gaynor approached him, noting as he did so that Harlan stood strangely rigid and still. In alarm, Gaynor ran the remaining distance. Harlan did not seem to notice. His face was rapt, trancelike.

Gaynor grasped Harlan's arm, shook him. "Wade! Wade—what is it? Snap out of it?"

Harlan stirred. Expression came back into his features—his eyes sharpened upon Gaynor's face. "What . . . what— Oh, it's you, Jon. She . . . she had red hair, and . . . and her arms were around me, and—" Harlan broke off, flushing.

Investigation of the cabinets in the other rooms produced still more interesting results. One had a spigot projecting from its front, with a catchbasin below, much like a drinking fountain. Gaynor looked at the wall paintings, and then he looked at the spigot, and suddenly liquid jetted from it. He tasted it cautiously, nodded approvingly, not at all surprised.

"Scotch," he said. "I'll have it with soda."

"Hurry up, then," Harlan prompted impatiently.

There was another cabinet that they found particularly interesting. This one had a foot-square opening in its front, and after Gaynor and Harlan had gotten their proper instructions from the paintings, they moved on—each munching at a delicious leg of roast chicken.

Not all the cabinets produced things which were edible or audible, but all opened up new vistas of thought and experience. Gaynor and Harlan learned the purpose of each, and already in their minds they were devising new methods of test and application. The wall paintings were very expressive, and they were learning rapidly.

That was the beginning—

After the cabinets, which supplied every possible physical or mental want, came the machines. Simple things at first, for Gaynor and Harlan were still in the equivalent of kindergarten. But they were humanoid—and, therefore, inquisitive. The machines were delightful and of absorbing interest. Once their purpose and function became

known, however, their novelty died, and Gaynor and Harlan quested on for new fields to conquer. Thus, in a very few days, they moved to the next unit.

Here was the same plan of tower-encircled court, but the cabinets and machines had become more complicated, more difficult of operation. But Gaynor and Harlan had become quite adept at reading the wall paintings which were their primers. They learned—

Instruction followed application, and in a very few days, again, Gaynor and Harlan moved on. Thus they went, from unit to unit, and always the wall paintings pointed out the way.

The sun rose and the sun set, and the city dreamed on. And always, high in the sky, the crystal creatures circled and soared, tinkling and chiming. The days passed gently, mere wraiths of sunlight.

The machines grew larger, more intricate, ever more difficult of solution. Each was a new test upon the growing knowledge of Gaynor and Harlan. And each test was harder than the last, for the wall paintings no longer pointed out the way, but merely hinted now.

Gaynor and Harlan progressed more slowly, though none the less steadily. They were not impatient. They had no sense of restless striving toward a future goal. They lived for the present. They were submerged heart and soul in the never-ending fascinations of their environment to the exclusion of all else.

The machines continued to grow longer. At one point they were so huge, that a single machine filled an entire apartment. But that was the climax, for afterward the machines grew smaller, ever smaller, until at last they came to a unit the apartments of which were empty. Empty, that is, except for the wall paintings and the jewels in their niches.

Harlan peered about him, frowning. "I seem to remember this place."

"It is familiar," Gaynor said. His brows drew together, and after a time he nodded. "We were here before, I think. But that was many toree ago, when we were children."

"Yes—when we were children. I recall it, now." Harlan smiled reminiscently. "It is strange we knew so little as children that it should be so easily forgotten."

"Yes, we have grown. The memories of childhood are very dim. I can recall some

things, but they are not very clear. There was a purpose that brought us to the city. A purpose— But what else, could it have been than to learn? And there was a mystery. But there is nothing mysterious about the city, nothing strange at all. Mere imaginings of childhood perhaps—meaningless trifles at best. We will not let them concern us now. We have grown."

Harlan nodded gravely, and his blue eyes, deep with an ocean of new knowledge, lifted to the painting-covered walls. "Events of the past should no longer concern us. We have entered upon the Third Stage. The tasks of this alone should occupy our thoughts."

"Yes—the past has been left behind." Gaynor was looking at the walls. "The Third Stage. The tasks will be very difficult, Wade—but interesting. We'll be putting our knowledge into practice—actually creating. This means we'll have to deal directly with the powers of the various soldani and varoo. As these are extradimensional, control will be solely by chalthening at the sixth level, through means of the taadron. We'll have to be careful, though—any slightest relaxation of the sorran will have a garreling effect—"

"I guessed that. But there must be some way to minimize the garreling effect, if it should occur."

"A field of interwoven argroni of the eighth order should prevent it from becoming overpowering."

"We can try it. You're working on the woratis patterns?"

"Yes. I've managed to chalthen them into the fifth stage of development."

"Mine's the vandari patterns. I've found them more interesting than those of the woratis. Fourth stage of development. I'm starting at once. I'll use the next room."

Harlan left, and Gaynor took the jewel from its niche—the taadron, that is—and set his chalthening power at the sixth level. The thing flamed gloriously in his hand—light pulsed out in great, soft waves, washed over the wall paintings, made them glow with exquisite richness. Unearthly melody filled the room, tuneless, silver-sweet. Gaynor was creating. And as he did so, things began to take on form and substance within the room—things which might have been machines, but weren't machines, because they were intelligent and alive in a way no machine can ever be. Finally, Gaynor and his creations communicated. It was some-

what difficult at first, but he was well along now, and took the difficulty in his stride.

Gaynor learned things—just as, in the other room, Harlan was learning, too. And then he took up the taadron again and choltened. The things which he had created vanished. He began to develop the woratis patterns into the fifth stage—

Bright day blended into bright day, gently, unnoticeably. The city floated on the gentle, green swells of the planet, and floating, dreamed.

After a time, Gaynor and Harlan moved on to the next unit. Then the next—and the next. Soon it came to pass that they entered the Fourth Stage. This, they knew, was the last one, but what came afterward did not worry them. They had reached a level of mind which was beyond all worrying.

The Third Stage had changed them greatly, though they were not aware of it. They would not have been concerned even if they had. They no longer used their natural vocal apparatus, now, for they had come to think in terms which simply could not have been put into words. They had become telepathic, conversing in pure ideas of the highest order. And they no longer materialized their food from the atoms of the air. A simple rearrangement of their body cells—simple, when understood as they understood it—now enabled them to feed directly upon certain nourishing extradimensional subatomic energies. And the antigravity flight units, which they had reduced to the size of peas for convenience, were now discarded entirely. They had learned to fly without the aid of any device.

The Fourth Stage changed them still further. They created now—the word does not quite describe their activities—without the air of the taadron, for they had learned to ennathen, which was as great an advancement over choltkening as telepathy is over speech. Thus it came about that Gaynor and Harlan—or the beings who once had been Gaynor and Harlan—found their bodies an annoying encumbrance. For arms and legs, heart and lungs, and the senses and nerves which use of these required, had become quite unnecessary to them. They had outgrown these impedimenta of their childhood.

They spoke of this now by a telepathic means that was not quite telepathy, and they wondered what to do. For though they had mastered well the wall paintings which were their college textbooks, there was no clear answer. Their discussion of the problem could not have been made understandable, however roughly it might have been put, but suffice it to say that at last they reached a decision.

They had progressed from one end of the city to the edge of the other. Not quite the edge, though—for there was one building in which they had not yet narleened. They had *examined* it before, of course, but that was when they had been children—in those dim, pale days when they did not understand.

They decided to vogelar to this very last building. Here, perhaps, every question would be answered.

It was dawn when they vogelared through the arching doorway. The first feeble rays of morning crept through the opening—the interior of the Temple was very dark and cool. All the dreaming of the city seemed to be concentrated here in one vast stillness.

The beings who once had been Gaynor and Harlan narleened the paintings on the walls of the Temple, gazed upon them with this new, all-embracing sense which went far beyond the limited realms of mere vision—so that almost the paintings spoke to them and they answered back. They narleened the paintings.

Their every question was answered—for all eternity.

And thus it came about, after a time, that two great, faceted crystals emerged from the doorway of the Temple, and lifted, pulsing with a vibrant new life, flashing in rainbow splendor, into the sky. Higher, they lifted, and higher, chiming and tinkling, soaring to join the others of their kind.

The sun shone brightly in the sky. High and far away in the blue, glittering clouds of crystal creatures darted and danced, sending wave of crystalline melody upon the gentle shores of air. Among them now were two who had still to learn the intricacies of flight.

And the city dreamed on.

A perfect environment, the city. Ideal for the inquisitive humanoid.

\* \* \* \* \*

THE END

\* \* \* \* \*

# WHY WORRY?



**W**ORRY uses an immense amount of vital force. People who worry not only use up their energy during the day by worrying, but they rob themselves of that greatest of all restoratives, sleep. People who worry can't sleep. They lose their appetite. They often end up by getting really ill.

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